

## 9. Push Scenario Group

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The Push Scenario Test Group details the functions and capabilities that are handled by the GSFC DAAC, including the process of, planning for, and receiving Level 1A - 3B TRMM VIRS, GV, TMI, and PR mission instrument data from TSDIS. Also, this scenario verifies the capability of the GSFC DAAC to perform early interface testing on the AM-1 instrument data sent by EDOS. This early interface testing involves ingesting and temporarily storing the Level 0 AM-1 instrument data. In addition, the operations involved in the processing, formatting, archiving, and creating higher level products are discussed in this scenario.

### 9.1 Data Ingest/Process/Archive Scenario

The Data Ingest/Process/Archive Scenario carries the GSFC DAAC operations staff through the process of planning for and receiving AM-1 Level 0 data from EDOS and the FDF. This scenario verifies the capability of the GSFC DAAC to ingest, account for, and temporarily store the AM-1 Level 0 data.

#### 9.1.1 Data Ingest, Process, and Archive at LaRC DAAC from SDPF Sequence

This sequence is not applicable to the ECS System Acceptance Test Procedures - Volume 2 GSFC Procedures (411/VE1).

#### 9.1.2 Data Ingest, Process, and Archive at MSFC DAAC from SDPF Sequence

This sequence is not applicable since the ingest and processing of LIS data will be handled at the LIS SCF. There is to be no acceptance testing of this functionality.

#### 9.1.3 Early AM-1 Interface Test Support Sequence

The Early AM-1 Interface Test Support Sequence verifies that the GSFC DAAC supports the interface testing of the AM-1 launch. This sequence verifies that the Level 0 AM-1 instrument data is ingested, accounted for, and temporarily stored at the GSFC DAAC.

**Configuration:** The subsystems needed to perform this sequence of tests are as follows: CSS/MSS, DSS, INS, ISS, & PLS. Refer to Appendix D for additional detail.

**External Interfaces:** The external interfaces (i.e., other ECS sites and data sources) needed for a sequence (both real and simulated) are listed:

EDOS (simulated)

**Operator Position(s):** The operator positions from the ECS Maintenance and Operations Descriptions document (607/OP2) needed to support this sequence are listed:

DAAC Ingest/Distribution Technician

DAAC Resource Planner

**Operational Scenario(s):** The operations scenarios, taken from the Operations Scenarios for the ECS Project: Release-A document (605/OP1), that were used to develop tests in this sequence of tests are listed:

Resource Planning Scenario (section 3.7.1)

**Test Dependencies:**

There are no test dependencies needed for this sequence of tests.

**9.1.3.1 AM-1 Data Ingest from EDOS at the LaRC DAAC**

This test procedure is not applicable to the ECS System Acceptance Test Procedures - Volume 2 GSFC Procedures (411/VE1).

**9.1.3.2 AM-1 Data Ingest from EDOS at the GSFC DAAC**

<b>TEST Procedure No.:</b> A090130.020\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> AM-1 Data Ingest from EDOS at the GSFC DAAC		
<b>Objective:</b> The purpose of this test is to verify that the GSFC DAAC ingests MODIS Level 0 data products from EDOS in support of early AM-1 interface testing. This procedure confirms that the GSFC DAAC ingests, accounts for, and temporarily archives the AM-1 Level 0 data products. <b>NOTE: For the purpose of early interface testing between the GSFC ECS DAAC and EDOS, this test will only ingest one (1) data set. However, all of the possible data sets are listed in the test inputs section. The data set to be ingested will be determined prior to performing this test.</b>		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0130#A	This requirement is verified through test. Each DADS shall receive from the EDOS and SDPF, at a minimum, the following: a. Production data (L0) b. Expedited data  The INGST CI must provide the capability to periodically check a location accessible to the network for the presence of a Delivery Record. EDOS notifies the GSFC DAAC on the availability of the AM-1 Level 0 production and expedited data. The DAAC Ingest/Distribution Technician verifies that notification is received from EDOS concerning the availability of the Level 0 data.  This test procedure does not cover reference to "SDPF". Reference to "SDPF" is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).	

DADS0250#A	<p>This requirement is verified through test.</p> <p>Each DADS shall receive, at a minimum, data in the following forms:</p> <ol style="list-style-type: none"> <li>Physical electronic media</li> <li>Electronic communications networks</li> <li>Hardcopy media</li> </ol> <p>The INGEST CI must provide the capability to electronically transfer data to be ingested into a specified GSFC ECS DAAC location.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC.</p> <p>According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.</p>
DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of ingest data.</p> <p>The GSFC DAAC must send storage status to the provider of ingest data. The STMGT CI must check each Archive Status Request it receives for the correct type of data in all fields. Fields that must be checked include Current Request Identifier and Request Identifier of previous Insert or Retrieve Requests to be statused.</p> <p>This test procedure does not cover reference to “data check”. Reference to “data check” is covered in test procedures #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC, #A090210.030\$G - Ingest, Validate, and Archive TOMS Ozone Ancillary Data from the V0 DAAC, #A090210.040\$G - Ingest, Validate, and Archive Migration Version 0 Documentation from the V0 DAAC, #A090240.010\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS, #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS, #A090240.030\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault), #A090270.010\$G - Ingest, Validate, and Archive NOAA ADC Ancillary Data, and A090430.010\$G - Reprocessed Data Receipt at the GSFC DAAC from TSDIS.</p>
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> </ul>

	<ul style="list-style-type: none"> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS2040#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall insure that data sent by EDOS and SDPF has been received and validated.</p> <p>The GSFC DAAC must ensure that the MODIS Level 0 data is received from EDOS. The DAAC Ingest/Distribution Technician verifies that the Ingest History Log reflects all of the MODIS Level 0 data ingested from EDOS.</p> <p>This test procedure does not cover references to “SDPF” and “validated”. References to “SDPF” and “validated” are covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
DADS2065#A	<p>This requirement is verified through test.</p> <p>The DADS shall receive production and expedited science and engineering data from EDOS in a data driven mode.</p> <p>The GSFC DAAC must receive production and expedited science and engineering data from EDOS in a data driven mode. EDOS only sends the data when all of the data packets necessary for producing each data set are available.</p>
EDOS-4.2.3-#A	<p>This requirement is verified through test.</p> <p>The DPF shall interface with the GSFC DAAC to transfer PDSs, QDSs, ADSs, and Mission Test Data Sets.</p> <p>The DPF must transfer PDSs, QDSs, ADSs, and Mission Test Data Sets to the GSFC DAAC. The DAAC Ingest/Distribution Technician verifies that the ingested data sets are recorded in the Ingest History Log.</p>
EDOS-C.1.1#A	<p>This requirement is verified through test.</p> <p>The DIF shall provide the capability to transfer PDS Delivery Records as specified in Applicable Document 1 to the GSFC DAAC following the delivery of each PDS.</p> <p>The DIF must transfer PDS Delivery Records to the GSFC DAAC following the delivery of each PDS. The DAAC Ingest/Distribution Technician verifies that the ingested data sets are recorded in the Ingest History Log.</p>
EDOS-C.4.2#A	<p>This requirement is verified through test.</p> <p>The DPF shall provide the capability to transfer PDS to the GSFC DAAC.</p> <p>The DPF must transfer production data sets to the GSFC DAAC. The DAAC Ingest/Distribution Technician verifies that the ingested production data sets are recorded in the Ingest History Log.</p>

EOSD1502#A	<p>This requirement is verified through demonstration.</p> <p>ECS elements shall use EBnet for data communications for the following types of data:</p> <ul style="list-style-type: none"> <li>a. Production data sets (Level 0 data)</li> <li>b. Expedited data sets</li> <li>c. Real-time data (for health and safety)</li> <li>d. Command data</li> <li>e. Data requested from back-up archive</li> <li>f. TDRSS schedule requests</li> <li>g. Data exchange with the FDF</li> <li>h. Production Data Transfers between DAACs</li> <li>i. Management Data exchange with SMC</li> <li>j. Data Products Exchange with ADCs, IPs, and Others</li> </ul> <p>The GSFC DAAC must use EBnet for data communications to ingest production (Level 0) and expedited data sets.</p> <p>This test procedure does not cover sub-letters (c thru j). Sub-letters (c and d) are covered in the FOS Scenario Group. Need to get further clarification on sub-letter (e). Sub-letters (f and g) are not Release A functions. Sub-letter (h) is covered in the End-To-End Scenario Group. Sub-letter (i) is covered in the System Management Scenario Group. Sub-letter (j) is covered in test procedure #A090270.010\$G - Ingest, Validate, and Archive NOAA ADC Ancillary Data.</p>
SDPS0020#A	<p>This requirement is verified through test.</p> <p>The SDPS shall receive EOS science, engineering, ancillary, and expedited data from the EDOS, and SDPF, and non-EOS ancillary data (as listed in Appendix C) from ADCs.</p> <p>The GSFC DAAC must receive EOS science, engineering, ancillary, and expedited data from the EDOS. The DAAC Ingest/Distribution Technician verifies that the ingested data is recorded in the Ingest History Log.</p> <p>This test procedure does not cover references to “SDPF” and “non-EOS ancillary data (as listed in Appendix C) from ADCs”. Reference to “SDPF” is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1). Reference to “non-EOS ancillary data (as listed in Appendix C) from ADCs” is covered in test procedure #A090270.010\$G - Ingest, Validate, and Archive NOAA ADC Ancillary Data.</p>
SDPS0110#A	<p>This requirement is verified through test.</p> <p>The SDPS shall be responsible for coordination of the transfer of production and expedited science and engineering data from EDOS SDPF and the IPs.</p> <p>The GSFC DAAC must coordinate the transfer of production and expedited science and engineering data from EDOS. The DAAC Ingest/Distribution Technician verifies that all necessary resources are available and ready for the ingest of the EDOS data.</p> <p>This test procedure does not cover reference to “SDPF” and “IPs”. Reference to “SDPF” is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document</p>

(411/VE1). Reference to “IPs” is covered in sequence #9.2.4 in the ECS System Acceptance Test Procedures - Volume 4 EDC Procedures document (411/VE1).				
<b>Test Inputs:</b>				
<b>Data Set Name</b>	<b>Data Set ID</b>	<b>File Name</b>	<b>Description</b>	<b>Version</b>
MODIS0_001	TBD	TBD	MODIS Science Data, PDS	TBD
MODIS0_002	TBD	TBD	MODIS Expedited Data, PDS	TBD
MODIS0_003	TBD	TBD	MODIS Housekeeping Data, PDS	TBD
MODIS0_004	TBD	TBD	MODIS Engineering Data, PDS	TBD
MODIS0_005	TBD	TBD	MODIS Ancillary Data, PDS	TBD

<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	DAAC Resource Planner: Invokes the Resource Planning Tool.	
40	Expected Result: The Resource Planning Tool is invoked.	
50	DAAC Resource Planner: Views the Resource Planning Tool GUI screen and options on their terminal.	
60	Expected Result: The Resource Planning Tool GUI displays the following options: <ul style="list-style-type: none"> <li>- Edit</li> <li>- Review</li> <li>- Report</li> <li>- Plan</li> <li>- Configure</li> </ul>	
70	DAAC Resource Planner: Selects the “Review” option from the Resource Planning Tool GUI screen.	
80	Expected Result: The current scheduled activities are displayed on the DAAC Resource Planner’s screen.	
90	DAAC Resource Planner: Reviews the current scheduled activities and verifies that resources have been allocated for the ingest of the MODIS Level 0 data from EDOS.	
100	Expected Result: Resource Planning Tool GUI displays the current scheduled activities on the screen and indicates that resources have been allocated for the ingest of data from EDOS.	
110	DAAC Resource Planner: Exits the Resource Planning Tool GUI and notifies the DAAC Ingest/Distribution Technician that resources are available and ready for the ingest of the EDOS Level 0 MODIS data.	
120	Expected Result: Resource Planning Tool GUI is exited and the DAAC Ingest/Distribution Technician is notified on the availability of the resources necessary for ingesting data.	
130	DAAC Ingest/Distribution Technician: Receives notification from EDOS concerning the availability of the EDOS Level 0 MODIS data (ADSs, QDSs, PDSs, ancillary, engineering, science, expedited, and Mission Test Data Sets) and the specific location where the data will be delivered to the GSFC ECS DAAC.	

140	Expected Result: The GSFC ECS DAAC prepares for the delivery of the MODIS Level 0 data.	
150	Tester: Sets up the EDOS simulator to begin ingest of the MODIS Level 0 data.	
160	Expected Result: EDOS simulator is enabled and ready to begin ingest of MODIS Level 0 data.	
170	DAAC Ingest/Distribution Technician: Prepares the system for ingest and reviews the entire ingest process on the Ingest Tool GUI screen.	
180	Expected Result: The system is ready for ingest and status messages are displayed on the DAAC Ingest/Distribution Technician's screen during the ingesting of the EDOS Level 0 data.	
190	GSFC ECS DAAC: The system sends an "Ingest Complete" message to the terminal notifying the DAAC Ingest/Distribution Technician that the data transfer has been completed.	
200	Expected Result: Receives an "Ingest Complete" message on the screen indicating the transfer of the MODIS Level 0 data is complete.	
210	DAAC Ingest/Distribution Technician: Downloads the Ingest History Log and reviews the log to verify that the ingested EDOS Level 0 data has been recorded.	
220	Expected Result: The system generates the Ingest History Log that is reviewed by the DAAC Ingest/Distribution Technician.	
230	DAAC Ingest/Distribution Technician: Verifies that a storage status notice is sent to EDOS indicating that the Level 0 MODIS data has been ingested and temporarily stored in the same location to which it was ingested.	
240	Expected Result: The system sends a storage status notice to EDOS indicating that the MODIS Level 0 data has been temporarily stored in the GSFC DAAC.	
250	DAAC Ingest/Distribution Technician: Logs off of the system.	
260	Expected Result: Log off procedures are completed.	



**Data Reduction and Analysis Steps:**

## 1. Review Ingest History Log for the following information:

- Request ID
- Priority
- Data Provider
- Start Time
- End Time
- Completion Status
- Restart Flag
- Pre-Processing Time
- Transfer Time
- Archive Time
- Number of Files
- Number of Granules
- Number of Successful Granules
- Data Volume
- Ingest Type

## 2. Review MSS Event Log

## 3. Review “Ingest Data Summary Report”

**Signature:****Date:****9.1.3.3 AM-1 Data Ingest from EDOS at the EDC DAAC**

This test procedure is not applicable to the ECS System Acceptance Test Procedures - Volume 2 GSFC Procedures (411/VE1).

**9.1.4 Early FDF and AM-1 Interface Test Support Sequence**

The Early FDF and AM-1 Interface Test Support Sequence verifies that the GSFC DAAC supports the early interface testing of the AM-1 launch and the Flight Dynamics Facility (FDF). This sequence verifies that the AM-1 instrument data is ingested, accounted for, and temporarily stored at the GSFC DAAC.

**Configuration:** The subsystem needed to perform this sequence of tests are as follows: CSS/MSS, DSS, INS, ISS, & PLS. Refer to Appendix D for additional detail

**External Interfaces:** The external interfaces (i.e., other ECS sites and data sources) needed for a sequence (both real and simulated) are listed:

FDF

**Operator Position(s):** The operator positions the ECS Maintenance and Operations Descriptions document (607/OP2) needed to support this sequence are listed:

DAAC Ingest/Distribution Technician

DAAC Resource Planner

**Operational Scenario(s):** The operations scenarios, taken from the Operations Scenarios for the ECS Project: Release-A document (605/OP1), that were used to develop tests in this sequence of tests are listed:

Resource Planning Scenario (section 3.7.1)

**Test Dependencies:**

There are no test dependencies needed for this sequence of tests.

**9.1.4.1 Orbit/Attitude Data Ingest from FDF**

<b>TEST Procedure No.:</b> A090140.010\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Orbit/Attitude Data Ingest from FDF		
<b>Objective:</b> The purpose of this test is to verify that the GSFC DAAC ingests data from the FDF in support of early AM-1 interface testing. This procedure confirms that the GSFC DAAC ingests, accounts for, and temporarily archives the FDF Level data. <b>NOTE: All of the data sets listed in the test inputs section will be ingested and verified during this test since they are mentioned in requirement DADS0175#A.</b>		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0175#A	This requirement is verified through test. The GSFC DAAC shall receive from FDF, at a minimum: a. Orbit data b. Attitude data c. Metadata  The GSFC DAAC must receive orbit and attitude data, in addition to metadata from the FDF. The DAAC Ingest/Distribution Technician reviews the Ingest History Log and verifies that the data ingested from the FDF is recorded in the log.	
DADS0250#A	This requirement is verified through test. Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications networks	

	<p>c. Hardcopy media</p> <p>The INGST CI must provide the capability to electronically transfer data to be ingested into a specified GSFC ECS DAAC location.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC.</p> <p>According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.</p>
DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of ingest data.</p> <p>The GSFC DAAC must send storage status to the provider of ingest data. The STMGT CI must check each Archive Status Request it receives for the correct type of data in all fields. Fields that must be checked include Current Request Identifier and Request Identifier of previous Insert or Retrieve Requests to be statused.</p> <p>This test procedure does not cover reference to “data check”. Reference to “data check” is covered in test procedures #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC, #A090210.030\$G - Ingest, Validate, and Archive TOMS Ozone Ancillary Data from the V0 DAAC, #A090210.040\$G - Ingest, Validate, and Archive Migration Version 0 Documentation from the V0 DAAC, #A090240.010\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS, #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS, #A090240.030\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault), #A090270.010\$G - Ingest, Validate, and Archive NOAA ADC Ancillary Data, and A090430.010\$G - Reprocessed Data Receipt at the GSFC DAAC from TSDIS.</p>
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> </ul>

	<ul style="list-style-type: none"><li>- Number of Successful Granules</li><li>- Data Volume</li><li>- Ingest Type</li></ul>			
Test Inputs:				
Data Set Name	Data Set ID	File Name	Description	Version
FDF_ORBIT_001	TBD	TBD	FDF Orbit Data	TBD
FDF_ATT_001	TBD	TBD	FDF Attitude Data	TBD
FDF_META_001	TBD	TBD	FDF Metadata	TBD

Step-By-Step Procedures		
Step No.	Input Action / Expected Results	Pass / Fail / Comments
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	DAAC Resource Planner: Invokes the Resource Planning Tool.	
40	Expected Result: The Resource Planning Tool is invoked.	
50	DAAC Resource Planner: Views the Resource Planning Tool GUI screen and options on their terminal.	
60	Expected Result: The Resource Planning Tool GUI displays the following options: <ul style="list-style-type: none"> <li>- Edit</li> <li>- Review</li> <li>- Report</li> <li>- Plan</li> <li>- Configure</li> </ul>	
70	DAAC Resource Planner: Selects the “Review” option from the Resource Planning Tool GUI screen.	
80	Expected Result: The current scheduled activities are displayed on the DAAC Resource Planner’s screen.	
90	DAAC Resource Planner: Reviews the current scheduled activities and verifies that resources have been allocated for the ingest of the Level 1 data from the FDF.	
100	Expected Result: Resource Planning Tool GUI displays the current scheduled activities on the screen and indicates that resources have been allocated for the ingest of data from the FDF.	
110	DAAC Resource Planner: Exits the Resource Planning Tool GUI and notifies the DAAC Ingest/Distribution Technician that resources are available and ready for the ingest of the FDF data.	
120	Expected Result: Resource Planning Tool GUI is exited and the DAAC Ingest/Distribution Technician is notified on the availability of the resources necessary for ingesting data.	
130	DAAC Ingest/Distribution Technician: Receives notification from the FDF concerning the availability of the orbit, attitude, and metadata and the specific location where the data will be delivered to the GSFC DAAC.	

140	Expected Result: The DAAC Ingest/Distribution Technician receives notification from FDF concerning the availability of the data. Also, receives information concerning the server where the data will be ingested.	
150	DAAC Ingest/Distribution Technician: Prepares the system for ingest and reviews the entire ingest process on the Ingest Tool GUI screen.	
160	Expected Result: The system is ready for ingest and status messages are displayed on the DAAC Ingest/Distribution Technician's screen during the ingesting of the FDF data.	
170	DAAC Ingest/Distribution Technician: Receives an "Ingest Complete" message on the screen indicating the transfer of the data is complete.	
180	Expected Result: The system sends an "Ingest Complete" message to the terminal notifying the DAAC Ingest/Distribution Technician that the data transfer has been completed.	
190	DAAC Ingest/Distribution Technician: Downloads the Ingest History Log and reviews the log to verify that the ingested FDF data has been recorded.	
200	Expected Result: The system generates the Ingest History Log that is reviewed by the DAAC Ingest/Distribution Technician.	
210	DAAC Ingest/Distribution Technician: Verifies that a storage status notice is sent to FDF indicating that the orbit, attitude, and metadata has been ingested and temporarily stored in the same location to which it was ingested.	
220	Expected Result: The system sends a storage status notice to FDF indicating that the data has been temporarily stored in the GSFC DAAC.	
240	DAAC Ingest/Distribution Technician: Logs off the system.	
250	Expected Result: Log off procedures are completed.	

**Data Reduction and Analysis Steps:**

## 1. Review Ingest History Log for the following information:

- Request ID
- Priority
- Data Provider
- Start Time
- End Time
- Completion Status
- Restart Flag
- Pre-Processing Time
- Transfer Time
- Archive Time
- Number of Files
- Number of Granules
- Number of Successful Granules
- Data Volume
- Ingest Type

## 2. Review MSS Event Log

## 3. Review “Ingest Data Summary Report”

**Signature:****Date:****9.2 Higher Level Processed Data Scenario**

The Higher Level Processed Data Scenario takes the GSFC DAAC operations personnel through the process of planning for and receiving higher level data from the V0 DAACs and TSDIS. This scenario verifies the capabilities of the GSFC DAAC to: receive data availability notices, verify that the data receipt process is complete and header information is accurate, extract metadata and verify the information, archive the data and metadata, and maintain an on-line directory. The capability of the data provider (i.e., TSDIS) to send data availability schedules/notices to the GSFC DAAC concerning the planned transfer of Level 1 and higher level production data sets is verified in this scenario.

### 9.2.1 Higher Level Processed Data Receipt from the V0 DAAC Sequence

The Higher Level Processed Data Receipt from the V0 DAAC Sequence verifies the ability of the GSFC DAAC to ingest V0 migration data (CZCS, AVHRR, SSM/I, TOVS, and SMMR) and TOMS Ozone ancillary data (Nimbus 7, Meteor-3, EP, and ADEOS) from the GSFC V0 DAAC. This sequence verifies the capability of the GSFC DAAC to receive data availability schedules, ingest the V0 migration and ancillary data, validate, extract and validate metadata, archive the V0 migration and ancillary data, and update the related directories and inventories.

**Configuration:** The subsystem needed to perform this sequence of tests are as follows: CSS/MSS, DPS, DSS, INS, ISS & PLS. Refer to Appendix D for additional detail.

**External Interfaces:** The external interfaces (i.e., other ECS sites and data sources) needed for a sequence (both real and simulated) are listed:

SMC

GSFC V0 DAAC

**Operator Position(s):** The operator positions from the ECS Maintenance and Operations Descriptions document (607/OP2) needed to support this sequence are listed:

DAAC Ingest/Distribution Technician

DAAC Resource Planner

DAAC Archive Manager

**Operational Scenario(s):** The operations scenarios, taken from the Operations Scenarios for the ECS Project: Release-A document (605/OP1), that were used to develop tests in this sequence of tests are listed:

Resource Planning Scenario (section 3.7.1)

TRMM Ancillary Data Ingest Scenario (section 3.9.3)

Version 0 Data Ingest Scenario (section 3.9.5)

Data Insertion Scenario (nominal) (section 3.10.2)

#### Test Dependencies:

There are no test dependencies needed for this sequence of tests.

#### 9.2.1.1 Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC

<b>TEST Procedure No.:</b> A090210.020\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC		
<b>Objective:</b> The purpose of this test is to verify the ability of the GSFC DAAC to receive Data Availability Notices from the V0 GSFC DAAC for the V0 migration data. This procedure also confirms that the GSFC DAAC ingests, validates, and archives the		



<p>V0 migration data. Upon completion of the archival process, this procedure verifies that the associated directories and inventories are updated with the new information.</p> <p><b>NOTE: For the purpose of testing the interface between the GSFC ECS DAAC and the GSFC V0 DAAC, this test will only ingest one (1) Version 0 migration data set. However, all of the possible Version 0 migration data sets are listed in the test inputs section. The data set to be ingested will be determined prior to performing this test.</b></p>	
Requirements	Acceptance Criteria
DADS0250#A	<p>This requirement is verified through test.</p> <p>Each DADS shall receive, at a minimum, data in the following forms:</p> <ol style="list-style-type: none"> <li>Physical electronic media</li> <li>Electronic communications networks</li> <li>Hardcopy media</li> </ol> <p>The INGST CI must provide the capability to electronically transfer data to be ingested into a specific GSFC ECS DAAC location.</p> <p>According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.</p>
DADS0290#A	<p>This requirement is verified through test.</p> <p>Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.</p> <p>The INGST CI must check selected parameters from extracted metadata to verify:</p> <ol style="list-style-type: none"> <li>Metadata parameters stored in a dataset specific format</li> <li>For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set</li> <li>That the metadata parameter syntax is correct</li> <li>For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>That date/time values include a valid month, day of month, hour, minute, and second</li> <li>That date/time values include a year within a range specific for that date/time value.</li> </ol>
DADS0300#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.</p> <p>The GSFC DAAC must generate status indicating the success or failure of metadata and data consistency checks. The DAAC Ingest/Distribution Technician verifies that the History Log or Error Log, whichever is appropriate, is updated with the results of the data consistency checks.</p> <p>This test procedure does not cover reference to “failure”. Reference to “failure” is covered in test procedure #A090240.030\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault).</p>

DADS0310#A	<p>This requirement is verified through test.</p> <p>Each DADS shall verify that data came from an approved/authorized source.</p> <p>The INGST CI must verify that the external data provider is an authorized provider of data to be ingested at the GSFC DAAC.</p>
DADS0350#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate the following metadata items, at a minimum:</p> <ol style="list-style-type: none"> <li>Unique Granule Id for L0</li> <li>Date and time of storage</li> <li>Physical location</li> <li>Data check status</li> <li>Unique format identifiers</li> </ol> <p>The STMGT CI must store the following metadata: granule id, date and time of storage, data check status and data format type. The DAAC Ingest/Distribution verifies that the metadata items have been generated by querying the inventory database.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
DADS0370#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the IMS with metadata on newly stored data granules.</p> <p>The GSFC DAAC must update directories with metadata on the newly stored data granules.</p>
DADS0465#A	<p>This requirement is verified through test.</p> <p>The DADS shall provide storage for the following Version 0 data:</p> <ol style="list-style-type: none"> <li>Standard Products</li> <li>Associated correlative data sets</li> <li>Associated ancillary data sets</li> <li>Associated calibration data sets</li> <li>Associated metadata</li> <li>Documents</li> <li>Algorithms</li> </ol> <p>The GSFC DAAC must provide storage for Version 0 data. The SDSRV CI must interface with the STMGT CI to provide storage for standard products; associated correlative, ancillary, and calibration data sets; associated metadata; documents; and algorithms. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letters (b thru d, and g).</p> <p><b>According to Tom Dopplick's cc:mail message dated 06/26/96, initially the system will only handle standard products, associated metadata, and documents for Version 0 migration data.</b></p>

DADS0490#A	<p>This requirement is verified through test.</p> <p>Each DADS shall archive Level 1B - Level 4 data products.</p> <p>The SDSRV CI must process Data Insert Requests for the Version 0 migration Level 1 and higher data products. The system must check the following fields on the Data Insert Request for correct data entries: request identifier, date of request, priority information, data type and original identifier. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p>
DADS0700#A	<p>This requirement is verified through test.</p> <p>Each DADS shall be capable of complying with data transfer cancellation or delay notifications.</p> <p>The GSFC V0 DAAC must notify the GSFC ECS DAAC in the event anticipated Version 0 migration data products are delayed. The GSFC ECS DAAC must be able to handle data transfer cancellations from the GSFC V0 DAAC.</p>
DADS0770#A	<p>This requirement is verified through test.</p> <p>The DADS shall reformat data sets in one of the approved standard formats including HDF.</p> <p>The INGST CI must covert ingested data into an ECS standard format for Version 0 products.</p>
DADS0800#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format for Version 0 products.</p>
DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of data.</p> <p>The INGST CI must return data check status to the provider of the data. The SDSRV CI must send storage status to the INGST CI indicating the completion of the archive process. The DAAC Ingest/Distribution Technician must have the capability to view the status of ongoing ingest requests including the following information: external data provider, ingest request identifier, total ingest data volume, and request state.</p>
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> </ul>

	<ul style="list-style-type: none"> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS1100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.</p> <p>The GSFC DAAC operations staff (i.e., DAAC Ingest/Distribution Technician) must be able to select and extract Inventory Logs for selected time periods. The STMGT CI must record each archived data item in the Inventory Update Log.</p>
DADS1380#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.</p> <p>The INGST CI must report status on the performance of ingest requests to the MSS with the following: file transfer duration, file processing duration, and data insert duration.</p>
DADS1390#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between elements of the ECS and the DADS.</p> <p>The INGST CI must provide authorized operations staff the capability to view the status of ongoing ingest processing. The DAAC Ingest/Distribution must have the capability to view the following information: External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.</p>
DADS1510#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall ensure that IMS acknowledges receipt of metadata on all products stored in the DADS.</p> <p>The SDSRV CI must return a successful completion status to the provider of data only after all data and associated metadata has been successfully stored.</p>
DADS1780#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall provide the capability to store as a single entity logically grouped sets of data.</p> <p>The STMGT CI must support the capability to logically group a set of granule ids such that the set can be referenced by a single identifier.</p>
DADS1795#A	<p>This requirement is verified through demonstration.</p>

	<p>Each DADS shall update internal file directories with the unique Data set ID.</p> <p>The STMGT CI must maintain a unique data set id for each data item in its File Directory. The DAAC Ingest/Distribution Technician queries the File Directory database to verify that each Version 0 migration data item has a unique data set id.</p>
DADS1800#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain data storage inventories defining the physical location of files.</p> <p>The STMGT CI must be capable of tracking the physical location of each data granule via use of the File Directory. The DAAC Ingest/Distribution Technician performs a search of the File Directory for the V0 migration data products.</p>
DADS1805#A	<p>This requirement is verified through demonstration.</p> <p>The DADS shall provide an inventory system capable, at a minimum, of the following:</p> <ol style="list-style-type: none"> <li>Accepting the number of new inventory entries, one per granule, for the number of granules per day as specified in Appendix C</li> <li>Uniquely identifying each data granule</li> <li>Tracking the physical location of each data granule.</li> </ol> <p>The STMGT CI must maintain an Inventory Update Log. The following information is recorded in the log: time and date of update, unique data identifier, archive media name, source of data, storage device name and requester.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in the End-To-End Scenario Group.</p>
IMS-0300#A	<p>This requirement is verified through inspection.</p> <p>The IMS shall maintain a log of all information update activity.</p> <p>The ADSRV CI must maintain a log of all information read, write, update, and delete activity. The DAAC Ingest/Distribution Technician reviews the Event Log to verify that all information update activity has been recorded.</p>
IMS-0320#A	<p>This requirement is verified through inspection.</p> <p>Standard Product related metadata shall contain, at a minimum:</p> <ol style="list-style-type: none"> <li>Keywords and glossary from investigators</li> <li>Keywords, synonyms, and glossary for cross-product and cross-directory referencing</li> <li>Identifiers for locating products in the DADS archive by granule</li> <li>Documentation on algorithms, including version history, authors, written description of product, equations, and references</li> <li>Documentation on instrument(s) and spacecraft(s) including history of housekeeping and ancillary parameters, discipline characterization, calibration parameters, key individuals, and references</li> <li>Identifiers, algorithms, written descriptions, equations, authors, and references associated with static browse products and subsetted, subsampled, and summary data products</li> </ol>

	<ul style="list-style-type: none"> <li>g. Published papers, research results, significant results, and references by author and date</li> <li>h. Key organizations and personnel for all product-related DAACs, ADCs, and ODCs</li> <li>i. Granule-specific information as listed in Tables C-10 and C-11 in Appendix C</li> </ul> <p>The SDSRV CI Schema Information must include for each Data Type the Data Type Attributes for that Data Type and the Valid Values associated with each Data Type Attribute.</p> <p>This test procedure does not cover reference to “ADCs” and “ODCs” (see sub-letter (h)).</p>
IMS-0330#A	<p>This requirement is verified through demonstration.</p> <p>The metadata maintained by the IMS shall provide a cross reference that relates science data to the following at a minimum:</p> <ul style="list-style-type: none"> <li>a. Calibration data, navigation data, and instrument engineering data</li> <li>b. Processing algorithms used for data generation at the PGS</li> <li>c. Software used for data generation at the PGS</li> <li>d. Parameters used for data generation at the PGS</li> <li>e. Input data used for data generation at the PGS</li> <li>f. Data recipients</li> <li>g. The PGS at which the data was processed</li> <li>h. QA and validation data, reports, and algorithms</li> </ul> <p>The SDSRV CI must have the ability to store references to calibration data, instrument engineering data, production history data, and QA statistics as metadata for science data.</p> <p>This test procedure does not cover sub-letters (b thru e, and g). Sub-letters (b thru e, and g) are covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1)</p>
IMS-0340#A	<p>This requirement is verified through inspection.</p> <p>The metadata maintained by the IMS shall contained content-based summary information, including statistical summaries and granule features, for all ECS standard and special products.</p> <p>The SDSRV CI must support inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.</p>
SDPS0080#A	<p>This requirement is verified through test.</p> <p>The SDPS shall archive, manage, and quality check and account for all science data received from the EPDSs and ancillary data received from the EPDSs, the SCFs, the ADCs, other DAACs, PIs, and the other EOS science users.</p> <p>The GSFC DAAC must archive, manage, and quality check and account for all ancillary data received from other DAACs.</p> <p>This test procedure does not cover reference to “science data receive from the EPDSs” and “ancillary data received from the EPDSs, the SCFs, the ADCs, PIs, and the other EOS science users”.</p>

V0-0260#A	<p>This requirement is verified through test.</p> <p>The DAACs V0 IMS shall have the capability to send and ECS shall have the capability to receive Migration Metadata.</p> <p>The GSFC ECS DAAC must receive Migration Metadata from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with information pertaining to the migration metadata.</p>
V0-0270#A	<p>This requirement is verified through test.</p> <p>The DAACs V0 DADS shall have the capability to send and ECS shall have the capability to receive Migration Data Products.</p> <p>The GSFC ECS DAAC must receive Migration Data Products from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with information pertaining to the migration data products.</p>
V0-0280#A	<p>This requirement is verified through test.</p> <p>The DAACs V0 DADS shall have the capability to send and ECS shall have the capability to receive Migration Browse Data.</p> <p>The GSFC ECS DAAC must receive Migration Browse Data from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with information pertaining to the migration data products.</p>
V0-0300#A	<p>This requirement is verified through test.</p> <p>The DAAC V0 DADS shall have the capability to send and ECS shall have the capability to receive Migration Ancillary Data and Correlative Data.</p> <p>The GSFC ECS DAAC must receive Migration Ancillary and Correlative Data from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with information pertaining to the migration ancillary and correlative data.</p>
V0-0310#A	<p>This requirement is verified through test.</p> <p>The DAACs V0 PGS shall have the capability to send and ECS shall have the capability to receive Migration Data Products.</p> <p>The GSFC ECS DAAC must receive Migration Data Products from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with information pertaining to the migration data products.</p>
V0-0320#A	<p>This requirement is verified through test.</p> <p>The DAACs V0 PGS shall have the capability to send and ECS shall have the capability to receive Migration Browse Data.</p> <p>The GSFC ECS DAAC must receive Migration Browse Data from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with information pertaining to the migration data products.</p>
V0-0330#A	<p>This requirement is verified through test.</p> <p>The DAACs V0 PGS shall have the capability to send and ECS shall have the capability to receive Migration Metadata.</p> <p>The GSFC ECS DAAC must receive Migration Metadata from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the</p>

	Ingest History Log is updated with information pertaining to the migration data products.
V0-0331#A	<p>This requirement is verified through test.</p> <p>The DAACs V0 PGS shall have the capability to send and ECS shall have the capability to receive Migration Data Products according to the agreed schedule.</p> <p>The GSFC ECS DAAC must receive Migration Data Products according to an agreed schedule from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the GSFC V0 DAAC sends a data availability notice indicating the availability of the Migration Data Products for ingest.</p>
V0-0340#A	<p>This requirement is verified through test.</p> <p>The ECS shall have the capability of ingesting migration data in the following data format(s):</p> <ol style="list-style-type: none"> <li>HDF</li> <li>native format</li> <li>TBD</li> </ol> <p>The SDSRV CI must have the capability to ingest V0 migration data in its native format. The data will be converted into an approved ECS standard format (i.e., HDF) for further validation and processing activities.</p> <p>This test procedure does not cover sub-letters (a and c).</p>
V0-0350#A	<p>This requirement is verified through test.</p> <p>The ECS shall have the capability of receiving data products from the DAAC(s) V0 system on the following media:</p> <ol style="list-style-type: none"> <li>CD-ROM</li> <li>4mm tape</li> <li>8mm tape</li> <li>6250 bpi magnetic tape</li> <li>electronic transfer</li> </ol> <p>The GSFC ECS DAAC must be capable of receiving data products from the GSFC V0 DAAC via electronic transfer.</p> <p>This test procedure does not cover sub-letters (a thru d).</p> <p><b>NOTE: According to Tom Dopplick's cc:mail message (06/26/96), all of the media listed above is possible for Release A. However, they are still under review.</b></p>
V0-0360#A	<p>This requirement is verified through test.</p> <p>The ECS and DAAC(s) shall have the capability to exchange Migration Coordination messages [implementation issue 3].</p> <p>The GSFC ECS DAAC must have the capability to exchange Migration Coordination message with other ECS DAACs.</p>



<b>Test Inputs: Data Availability Schedules</b>				
<b>Data Set Name</b>	<b>Data Set ID</b>	<b>File Name</b>	<b>Description</b>	<b>Version</b>
V0TOMSG26_001 (TOMS-nimbus 7)	TBD	TBD	CDTOMS2 Gridded HDF-EOS (archive) CDF (temporary)	TBD
V0CZCSG11_001 (CZCS L1)	TBD	TBD	High Resolution Raw HDF-EOS (archive) CDF (temporary)	TBD
V0AVHRRG1_001 (AVHRR Pathfinder)	TBD	TBD	Daily Land Mosaic 10 Day Land Mosaic Daily Browse Product 10 day Browse Product	TBD
V0AVHRRG2_001 (AVHRR Pathfinder)	TBD	TBD	Daily Land Mosaic 10 Day Land Mosaic Daily Browse Product 10 day Browse Product	TBD
V0AVHRRG3_001 (AVHRR Pathfinder)	TBD	TBD	Daily Land Mosaic 10 Day Land Mosaic Daily Browse Product 10 day Browse Product	TBD
V0SSM/I_001	TBD	TBD	Atmospheric Dynamics Products	TBD
V0TOVS_001	TBD	TBD	Pathfinder MSU Atmospheric Dynamics	TBD
V0SMR_001	TBD	TBD	SMR Version 0 data	TBD

<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	DAAC Resource Planner: Invokes the Resource Planning Tool.	
40	Expected Result: The Resource Planning Tool is invoked.	
50	DAAC Resource Planner: Views the Resource Planning Tool GUI screen and options on their terminal.	
60	Expected Result: The Resource Planning Tool GUI displays the following options: - Edit - Review - Report - Plan - Configure	
70	DAAC Resource Planner: Selects the “Review” option from the Resource Planning Tool GUI screen.	
80	Expected Result: The current scheduled activities are displayed on the DAAC Resource Planner’s screen.	
90	DAAC Resource Planner: Reviews the current scheduled activities and verifies that resources have been allocated for the ingest of the V0 migration data from the GSFC V0 DAAC.	
100	Expected Result: Resource Planning Tool GUI displays the current scheduled activities on the screen and indicates that resources have been allocated for the ingest of data from the V0 DAAC.	
110	DAAC Resource Planner: Exits the Resource Planning Tool GUI and notifies the DAAC Ingest/Distribution Technician that resources are available and ready for the ingest of the GSFC V0 DAAC migration data.	
120	Expected Result: Resource Planning Tool GUI is exited and the DAAC Ingest/Distribution Technician is notified on the availability of the resources necessary for ingesting data.	
130	DAAC Ingest/Distribution Technician: Enters a subscription requesting notification upon receipt of specific Version 0 migration data.	
140	Expected Result: The system stores the subscription concerning the Version 0 migration data pending receipt of the data.	
150	DAAC Ingest/Distribution Technician: Invokes the Ingest Status Monitor Tool from the main Ingest GUI screen.	
160	Expected Result: The Ingest Status Monitor Tool is invoked and the screen identifies ongoing ingest requests (stored in Sybase tables) and displays them for the DAAC Ingest/Distribution Technician.	

170	GSFC V0 DAAC: Sends a Data Availability Notice (DAN) to the GSFC ECS DAAC indicating availability of the Version 0 migration data.	
180	Expected Result: The GSFC ECS DAAC receives a DAN from the GSFC V0 DAAC, checks the DAN and sends a Data Availability Acknowledgment (DAA) to the GSFC V0 DAAC. The INGST CSCI automatically checkpoints request information extracted from the DAN into a Sybase data base. The system automatically coordinates the V0 data transfer with the V0 migration facility.	
190	DAAC Ingest/Distribution Technician: Periodically reviews the Ingest Status Monitor display. Looks for ingest requests that have been queued for an unexpected period.	
200	<p>Expected Result: The system automatically extracts metadata from transferred V0 data, checks the metadata, (e.g. range checks), and inserts the data and metadata into the appropriate Data Server. Selected parameters from the extracted metadata are checked to verify:</p> <ul style="list-style-type: none"> <li>a. Metadata parameters stored in a dataset specific format</li> <li>b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specific set</li> <li>d. That the metadata parameter syntax is correct</li> <li>e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>f. That date/time values include a valid month, day of month, hour, minute, and second</li> <li>g. That date/time values include a year within a range specific for that date/time value.</li> </ul> <p>Request state (active, file transferred, data insertion complete, etc.) is updated in the checkpointed request information.</p>	
210	DAAC Ingest/Distribution Technician: Periodically reviews the MSS Event Log to visually determine anomalous conditions (e.g., a pattern of metadata check errors).	
220	Expected Result: The system automatically logs events by means of the MSS Event Logging capability. Entries recorded in this log include detection of out-of-range metadata values, incompletely-transferred data files, etc.	
221	DAAC Ingest/Distribution Technician: Accesses the “Ingest Status Monitoring GUI Screen” to view the status of ongoing ingest processing. The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	
222	Expected Result: The “Ingest Status Monitoring GUI Screen” displays the necessary information concerning the status of ongoing ingest processing.	
230	DAAC Ingest/Distribution Technician: Observes the removal of the completed ingest request from the Status Monitor display.	
240	Expected Result: A data check status message is automatically returned to the GSFC V0 DAAC by means of a Data Delivery Notice (DDN).	

250	GSFC V0 DAAC: Sends a DDA to the GSFC ECS DAAC indicating receipt of the DDN.	
260	Expected Result: The GSFC ECS DAAC receives a DDA from the GSFC V0 DAAC. Upon receipt of the DDA, the system deletes the ongoing ingest request information. Summary information is retained in the Sybase data base (as Ingest History Log data).	
270	DAAC Ingest/Distribution Technician: Views summary information concerning the completed ingest requests via the GUI Ingest History Log tool.	
280	Expected Result: The system provides access to the Ingest History Log which contains summary information on the following: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
290	DAAC Ingest/Distribution Technician: Accesses the Ingest Summary Report GUI Screen and selects both the “Ingest Data Summary Report” and “Ingest Error Report” options. Generates and reviews both copies of the summary reports.	
300	Expected Result: The system generates the summary reports detailing the completed ingest requests, including completion status, data volume ingested, etc.	
	<b>NOTE: The following steps (#301 thru #306) are used to verify DADS0250#A sub-letter (a).</b>	
301	DAAC Ingest/Distribution Technician: Retrieves the back-up copy of the Version 0 migration data.	
302	Expected Result: The 8 mm tape version of the Version 0 migration data is retrieved and mounted on the ingest tape drive.	
303	GSFC ECS DAAC: Reads the ingest tape that was mounted on the tape drive.	
304	Expected Result: The Version 0 contained on the tape is ingested into the GSFC ECS DAAC.	
305	DAAC Ingest/Distribution Technician: Views the entire ingest process via the Ingest GUI Screen.	
306	Expected Result: An “Ingest Complete” message is displayed on the DAAC Ingest/Distribution Technician’s screen when the ingest process has been completed.	
	<b>The test procedure now continues with step #310.</b>	
310	DAAC Ingest/Distribution Technician: Invokes the DSS System Management Tool and accesses the Storage Management screen. Examines the progress of a particular insert request on the screen by selecting the “Log and Reports (MSS)” option from the screen.	
320	Expected Result: The DSS System Management Tool is accessed and the Storage Management screen is displayed. The “Log and Reports (MSS)” option is selected and the log files are displayed on the screen.	
330	DAAC Ingest/Distribution Technician: Receives a data insert request validation message on the screen.	
340	Expected Result: The Processing subsystem sends a Data Insert Request to the Science Data Server. Receipt of the request is logged and a request identifier is associated with the Data Insert Request.	

350	DAAC Ingest/Distribution Technician: Continues to receive and review status concerning the data insert requests. Accesses the Data Server System Management screen and selects the “Requests” option.	
360	Expected Result: The queued Data Insert Request is reached and processing begins. Associated data granules and metadata are transferred from the Processing Subsystem to the Data Server working storage. Data transfer status (including recoverable errors) are indicated in the event log (via MSS Logging Services). The metadata update file(s) produced by the associated data product PGEs are validated for completeness and correctness. Validation success or failure is logged (via MSS Logging Services) with the associated Data Insert Request Identifier and the appropriate status message is returned to the Processing Subsystem.	
370	DAAC Ingest/Distribution Technician: Accesses the Archive Activity screen and selects the “Archive Activity Log” option to view information concerning the archive activities of the data insert request.	
380	Expected Result: The Archive Activity Log displays each data product being stored and storage status of each storage operation.	
381	DAAC Ingest/Distribution Technician: Accesses the Archive Activity Log screen, selects the sort option of “Time & Date”. Views the following information on the screen: Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	
382	Expected Result: The Archive Activity Log screen displays information pertaining to the data granules contained within the Data Storage Request.	
390	DAAC Ingest/Distribution Technician: Accesses the Inventory Update Log screen and selects the “Time & Date”, “Requester”, “Request ID”, “Volume” and “UR” options to generate a report concerning the contents of the inventory.	
400	Expected Result: The Inventory Update Log screen is accessed and displays the following fields “Time & Date”, Request ID”, “Requester Name”, “Volume Name”, “UR”, and “Checksum”. A checksum value is calculated for each data object associated with each granule. The checksum value, storage status, and other selected metadata is forwarded to the Science Data Server in a status message upon completion of the Data Storage Request.	
410	DAAC Ingest/Distribution Technician: Continues to examine the progress of the data insert request by selecting the “Log and Reports (MSS)” option from the Storage Management screen.	
420	Expected Result: Science Data Server receives and logs the Data Storage Request status message from Storage Management. The additional metadata items are validated. The PGE produced metadata update file and the storage management provided metadata are loaded into the metadata database. The status of the metadata load is entered in the event log (via MSS Logging Services).	
430	DAAC Ingest/Distribution Technician, DAAC Archive Manager, and GSFC V0 DAAC: Receive notice concerning the status of the data insert request(s).	

440	Expected Result: The Science Data Server logs completion of the Data Insert Request in the event log and reports completion of the Data Insert Request to the DAAC Archive Manager, DAAC Ingest/Distribution Technician, and the GSFC V0 DAAC.	
450	DAAC Ingest/Distribution Technician: Reviews the progress on subscription processing by accessing the Science Data Server Main Window Screen and selecting the “Subscriptions” option to view subscription submitted for the data.	
460	Expected Result: The Science Data Server examines the event list for all subscriptions for that event. Subscription notifications are sent to the appropriate entities.	
470	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the newly inserted data products.	
480	Expected Result: The queried Version 0 data products are located in the GSFC ECS DAAC inventory and displayed on the screen.	
481	DAAC Ingest/Distribution Technician: Accesses the Search and Order Tool to do a query for the Version 0 data.	
482	Expected Result: The Version 0 data is located in the inventory as a single entity of logically grouped sets of data.	
490	DAAC Ingest/Distribution Technician: Logs off of the system.	
500	Expected Result: Log off procedures are completed.	

#### **Data Reduction and Analysis Steps:**

##### **1. Review Ingest History Log for the following information:**

- Request ID
- Priority
- Data Provider
- Start Time
- End Time
- Completion Status
- Restart Flag
- Pre-Processing Time
- Transfer Time
- Archive Time
- Number of Files
- Number of Granules
- Number of Successful Granules
- Data Volume
- Ingest Type

##### **2. Review MSS Event Log**

##### **3. Review “Ingest Data Summary Report”**

**Data Reduction and Analysis Steps cont. :**

4. Review “Ingest Error Summary” Report for the following entries:
  - Error Type
  - Error Count
5. Review Validation Reports for the following information extracted from the metadata:
  - a. Metadata parameters stored in a dataset specific format
  - b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range
  - c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set
  - d. That the metadata parameter syntax is correct
  - e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)
  - f. That date/time values include a valid month, day of month, hour, minute, and second
  - g. That date/time values include a year within a range specific for that date/time value
6. Review “Inventory Update Log” for the following entries:
  - Time and Date
  - Request ID
  - Requester Name
  - Volume Name
  - UR
  - Checksum
7. Review “Archive Activity Log” for the following entries:
  - Time and Date
  - Request ID
  - Client ID
  - Operation
  - Filename
  - Archive Name
  - Volume Name

**Signature:**

**Date:**

### 9.2.1.2 Ingest, Validate, and Archive TOMS Ozone Ancillary Data from the V0 DAAC

<b>TEST Procedure No.:</b> A090210.030\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Ingest, Validate, and Archive TOMS Ozone Ancillary Data from the V0 DAAC		
<p><b>Objective:</b> The purpose of this test is verify the ability of the GSFC DAAC to ingest TOMS Ozone ancillary data from the V0 DAAC that is used in the generation of TSDIS data products. The TOMS ancillary data may include associated metadata, calibration data, and documents. Verification is made to ensure that the ancillary data is received, accounted for, validated, archived, and updated in the appropriate inventories.</p> <p><b>NOTE: For the purpose of testing the interface between the GSFC ECS DAAC and the GSFC V0 DAAC, this test will only ingest one (1) TOMS ancillary data set. However, all of the possible TOMS ancillary data sets are listed in the test inputs section. The data set to be ingested will be determined prior to performing this test.</b></p>		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0250#A	<p>This requirement is verified through test.</p> <p>Each DADS shall receive, at a minimum, data in the following forms:</p> <ol style="list-style-type: none"> <li>Physical electronic media</li> <li>Electronic communications networks</li> <li>Hardcopy media</li> </ol> <p>The INGST CI must provide the capability to electronically transfer data to be ingested into a specific GSFC ECS DAAC location.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC.</p> <p>According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.</p>	
DADS0290#A	<p>This requirement is verified through test.</p> <p>Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.</p> <p>The INGST CI must check selected parameters from extracted metadata to verify:</p> <ol style="list-style-type: none"> <li>Metadata parameters stored in a dataset specific format</li> <li>For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set</li> <li>That the metadata parameter syntax is correct</li> <li>For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>That date/time values include a valid month, day of month, hour, minute, and second</li> <li>That date/time values include a year within a range specific for that date/time value.</li> </ol>	



DADS0300#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.</p> <p>The GSFC DAAC must generate status indicating the success or failure of metadata and data consistency checks. The DAAC Ingest/Distribution Technician verifies that the History Log or Error Log, whichever is appropriate, is updated with the results of the data consistency checks.</p> <p>This test procedure does not cover reference to “failure”. Reference to “failure” is covered in test procedure #A090240.030\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault).</p>
DADS0310#A	<p>This requirement is verified through test.</p> <p>Each DADS shall verify that data came from an approved/authorized source.</p> <p>The INGST CI must verify that the external data provider is an authorized provider of data to be ingested at the GSFC DAAC.</p>
DADS0350#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate the following metadata items, at a minimum:</p> <ol style="list-style-type: none"> <li>Unique Granule Id for L0</li> <li>Date and time of storage</li> <li>Physical location</li> <li>Data check status</li> <li>Unique format identifiers</li> </ol> <p>The STMGT CI must store the following metadata: granule id, date and time of storage, data check status and data format type. The DAAC Ingest/Distribution verifies that the metadata items have been generated by querying the inventory database.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
DADS0370#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the IMS with metadata on newly stored data granules.</p> <p>The GSFC DAAC must update directories with metadata on the newly stored data granules.</p>
DADS0770#A	<p>This requirement is verified through test.</p> <p>The DADS shall reformat data sets in one of the approved standard formats including HDF.</p> <p>The INGST CI must covert ingested data into an ECS standard format for TOMS products.</p>
DADA0800#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format the following data types: TOMS products in version-7 of the TOMS CDROM format.</p>

DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of data. The INGST CI must return data check status to the provider of the data. The SDSRV CI must send storage status to the INGST CI indicating the completion of the archive process. The DAAC Ingest/Distribution Technician must have the capability to view the status of ongoing ingest requests including the following information: external data provider, ingest request identifier, total ingest data volume, and request state.</p>
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS1100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.</p> <p>The GSFC DAAC operations staff (i.e., DAAC Ingest/Distribution Technician) must be able to select and extract Inventory Logs for selected time periods. The STMGT CI must record each archived data item in the Inventory Update Log.</p>
DADS1380#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.</p> <p>The INGST CI must report status on the performance of ingest requests to the MSS with the following: file transfer duration, file processing duration, and data insert duration.</p>

DADS1390#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between elements of the ECS and the DADS.</p> <p>The INGST CI must provide authorized operations staff the capability to view the status of ongoing ingest processing. The DAAC Ingest/Distribution must have the capability to view the following information: External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.</p>
DADS1510#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall ensure that IMS acknowledges receipt of metadata on all products stored in the DADS.</p> <p>The SDSRV CI must return a completion status to the provider of data only after all data and associated metadata has been successfully stored.</p>
DADS1780#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall ensure that IMS acknowledges receipt of metadata on all products stored in the DADS.</p> <p>The SDSRV CI must return a completion status to the provider of data only after all data and associated metadata has been successfully stored.</p>
DADS1800#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain data storage inventories defining the physical location of files.</p> <p>The STMGT CI must be capable of tracking the physical location of each data granule via use of the File Directory. The DAAC Ingest/Distribution Technician performs a search of the File Directory for the TOMS ancillary data products.</p>
DADS1805#A	<p>This requirement is verified through demonstration.</p> <p>The DADS shall provide an inventory system capable, at a minimum, of the following:</p> <ol style="list-style-type: none"> <li>Accepting the number of new inventory entries, one per granule, for the number of granules per day as specified in Appendix C</li> <li>Uniquely identifying each data granule</li> <li>Tracking the physical location of each data granule.</li> </ol> <p>The STMGT CI must maintain an Inventory Update Log. The following information is recorded in the log: time and date of update, unique data identifier, archive media name, source of data, storage device name and requester.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in the End-To-End Scenario Group.</p>

DADS2020#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall have the capability to receive data availability schedules at a minimum, from:</p> <ul style="list-style-type: none"> <li>a.</li> <li>c. ADCs</li> <li>e. Other DADS</li> <li>f. TRMM (SDPF)</li> </ul> <p>The GSFC DAAC must receive data availability schedules from the GSFC V0 DAAC concerning the availability of the TOMS ancillary data. The DAAC Ingest/Distribution Technician verifies the receipt of a data availability schedule from the GSFC V0 DAAC.</p> <p>This test procedure does not cover sub-letters (a, c, or f). Sub-letter (c) is covered in test procedure #A090270.010\$G - Ingest, Validate, and Archive NOAA ADC Ancillary Data. Sub-letter (f) is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
IMS-0300#A	<p>This requirement is verified through inspection.</p> <p>The IMS shall maintain a log of all information update activity.</p> <p>The ADSRV CI must maintain a log of all information read, write, update, and delete activity. The DAAC Ingest/Distribution Technician reviews the Event Log to verify that all information update activity has been recorded.</p>
IMS-0320#A	<p>This requirement is verified through inspection.</p> <p>Standard Product related metadata shall contain, at a minimum:</p> <ul style="list-style-type: none"> <li>a. Keywords and glossary from investigators</li> <li>b. Keywords, synonyms, and glossary for cross-product and cross-directory referencing</li> <li>c. Identifiers for locating products in the DADS archive by granule</li> <li>d. Documentation on algorithms, including version history, authors, written description of product, equations, and references</li> <li>e. Documentation on instrument(s) and spacecraft(s) including history of housekeeping and ancillary parameters, discipline characterization, calibration parameters, key individuals, and references</li> <li>f. Identifiers, algorithms, written descriptions, equations, authors, and references associated with static browse products and subsetted, subsampled, and summary data products</li> <li>g. Published papers, research results, significant results, and references by author and date</li> <li>h. Key organizations and personnel for all product-related DAACs, ADCs, and ODCs</li> <li>i. Granule-specific information as listed in Tables C-10 and C-11 in Appendix C</li> </ul> <p>The SDSRV CI Schema Information must include for each Data Type the Data Type Attributes for that Data Type and the Valid Values associated with each Data Type Attribute.</p> <p>This test procedure does not cover reference to sub-letters (h and i).</p>

IMS-0330#A	<p>This requirement is verified through demonstration.</p> <p>The metadata maintained by the IMS shall provide a cross reference that relates science data to the following at a minimum:</p> <ul style="list-style-type: none"> <li>a. Calibration data, navigation data, and instrument engineering data</li> <li>b. Processing algorithms used for data generation at the PGS</li> <li>c. Software used for data generation at the PGS</li> <li>d. Parameters used for data generation at the PGS</li> <li>e. Input data used for data generation at the PGS</li> <li>f. Data recipients</li> <li>g. The PGS at which the data was processed</li> <li>h. QA and validation data, reports, and algorithms</li> </ul> <p>The SDSRV CI must have the ability to store references to calibration data, instrument engineering data, production history data, and QA statistics as metadata for science data.</p> <p>This test procedure does not cover sub-letters (b thru e, and g). Sub-letters (b thru e, and g) are covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1)</p>
IMS-0340#A	<p>This requirement is verified through inspection.</p> <p>The metadata maintained by the IMS shall contained content-based summary information, including statistical summaries and granule features, for all ECS standard and special products.</p> <p>The SDSRV CI must support inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.</p>
SDPS0021#A	<p>This requirement is verified through test. The SDPS shall convert the following ancillary data sets from their native formats into internal formats to allow access by science algorithms:</p> <ul style="list-style-type: none"> <li>a. NMC GRIB formatted final analysis product</li> <li>b. NESDIS Snow/Ice Product in DEF format</li> <li>c. TOMS products (format currently unspecified)</li> </ul> <p>The INSGT CI must covert ingested data into an ECS standard format, for following data types: TOMS products.</p> <p>This procedure does not cover sub-letters (a and b). Sub-letters (a and b) are covered in test procedure #A090270.010\$G - Ingest, Validate, and Archive NOAA ADC Ancillary Data.</p>
SDPS0080#A	<p>This requirement is verified through test.</p> <p>The SDPS shall archive, manage, and quality check and account for all science data received from the EPDSs and ancillary data received from the EPDSs, the SCFs, the ADCs, other DAACs, PIs, and the other EOS science users.</p> <p>The GSFC DAAC must archive, manage, and quality check and account for all TOMS ancillary data received from the GSFC V0 DAAC.</p> <p>This test procedure does not cover reference to “science data received from the EPDSs” and “ancillary data received from the EPDSs, the SCFs, the ADCs, PIs, and the other EOS science users”.</p>

<b>Test Inputs: Data Availability Schedules</b>				
<b>Data Set Name</b>	<b>Data Set ID</b>	<b>File Name</b>	<b>Description</b>	<b>Version</b>
Nimbus7_001	TBD	TBD	Ancillary data; HDF; 1 file/day	TBD
Meteor3_001	TBD	TBD	Ancillary data; HDF; 1 file/day	TBD
EP/TOMS_001	TBD	TBD	Ancillary data; HDF; 1 file/day	TBD
ADEOS/TOMS_001	TBD	TBD	Ancillary data; HDF; 1 file/day	TBD

<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	DAAC Resource Planner: Invokes the Resource Planning Tool.	
40	Expected Result: The Resource Planning Tool is invoked.	
50	DAAC Resource Planner: Views the Resource Planning Tool GUI screen and options on their terminal.	
60	Expected Result: The Resource Planning Tool GUI displays the following options: <ul style="list-style-type: none"> <li>- Edit</li> <li>- Review</li> <li>- Report</li> <li>- Plan</li> <li>- Configure</li> </ul>	
70	DAAC Resource Planner: Selects the “Review” option from the Resource Planning Tool GUI screen.	
80	Expected Result: The current scheduled activities are displayed on the DAAC Resource Planner’s screen.	
90	DAAC Resource Planner: Reviews the current scheduled activities and verifies that resources have been allocated for the ingest of the TOMS ancillary data from the GSFC V0 DAAC.	
100	Expected Result: Resource Planning Tool GUI displays the current scheduled activities on the screen and indicates that resources have been allocated for the ingest of data from the GSFC V0 DAAC.	
110	DAAC Resource Planner: Exits the Resource Planning Tool GUI and notifies the DAAC Ingest/Distribution Technician that resources are available and ready for the ingest of the ancillary data.	
120	Expected Result: Resource Planning Tool GUI is exited and the DAAC Ingest/Distribution Technician is notified on the availability of the resources necessary for ingesting data.	
130	DAAC Ingest/Distribution Technician: Enters a subscription requesting notification upon receipt of ancillary data.	
140	Expected Result: The system stores the subscription pending receipt of the ancillary data.	
150	DAAC Ingest/Distribution Technician: Accesses the Main Ingest GUI screen and selects the “Monitor” option on the screen.	
160	Expected Result: The Ingest Status Monitor Tool is invoked and the screen identifies ongoing ingest requests (stored in Sybase tables) and displays them for the DAAC Ingest/Distribution Technician.	

170	GSFC V0 DAAC: Application software automatically sets up to write data ancillary data and Delivery Record to specified location within the GSFC ECS DAAC.	
180	Expected Result: The System automatically checks a predetermined network location for the presence of a Delivery Record file. Once a Delivery Record file is located, the system automatically coordinates the data transfer with the GSFC V0 DAAC using ftp services. After the data and Delivery Record file is received, the INGST CSCI automatically checkpoints request information extracted from the Delivery Record into a Sybase data base.	
190	DAAC Ingest/Distribution Technician: Periodically reviews the Ingest Status Monitor display. Looks for ingest requests that have been queued for an unexpected period.	
200	<p>Expected Result: The system automatically extracts metadata from transferred ancillary data, checks the metadata, (e.g. range checks). Selected parameters from the extracted metadata are checked to verify:</p> <ul style="list-style-type: none"> <li>a. Metadata parameters stored in a dataset specific format</li> <li>b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specific set</li> <li>d. That the metadata parameter syntax is correct</li> <li>e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>f. That date/time values include a valid month, day of month, hour, minute, and second</li> <li>g. That date/time values include a year within a range specific for that date/time value.</li> </ul> <p>Format conversion to from GRIB to HDF-EOS is automatically performed for all ancillary products identified as requiring conversion. The data and metadata are inserted into the appropriate Data Server. Request state (active, file transferred, data insertion complete, etc.) is updated in the checkpointed request information.</p>	
210	DAAC Ingest/Distribution Technician: Periodically reviews the MSS Event Log to visually determine anomalous conditions (e.g., a pattern of metadata check errors).	
220	Expected Result: The system automatically logs events by means of the MSS Event Logging capability. Entries recorded in this log include detection of out-of-range metadata values, incompletely-transferred data files, etc.	
221	DAAC Ingest/Distribution Technician: Accesses the "Ingest Status Monitoring GUI Screen" to view the status of ongoing ingest processing. The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	
222	Expected Result: The "Ingest Status Monitoring GUI Screen" displays the necessary information concerning the status of ongoing ingest processing.	



230	DAAC Ingest/Distribution Technician: Observes the removal of the completed ingest request from the Status Monitor display. Verifies that a electronic mail message is sent to the GSFC V0 DAAC indicating successful insertion of the TOMS ancillary data into the Data Server.	
240	Expected Result: The system sends status to the GSFC V0 DAAC by means of electronic mail indicating the successful insertion of the ancillary data into the Data Server.	
250	GSFC ECS DAAC: Automatically determines the existence of subscriptions pending receipt of the ancillary data and sends a subscription notice to the requesting entity.	
260	Expected Result: All existing subscriptions are collected and a subscription notice is sent to the requesting entity.	
270	DAAC Ingest/Distribution Technician: Views summary information concerning the completed ingest requests via the GUI Ingest History Log tool.	
280	Expected Result: The system displays the Ingest History Log which contains summary information on the following: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
290	DAAC Ingest/Distribution Technician: Accesses the Ingest Summary Report GUI Screen and selects both the “Ingest Data Summary Report” and “Ingest Error Report” options. Generates and reviews both copies of the summary reports.	
300	Expected Result: The system generates the summary reports detailing the completed ingest requests, including completion status, data volume ingested, etc.	
310	DAAC Ingest/Distribution Technician: Invokes the DSS System Management Tool and accesses the Storage Management screen. Examines the progress of a particular insert request on the screen by selecting the “Log and Reports (MSS)” option from the screen.	
320	Expected Result: The DSS System Management Tool is accessed and the Storage Management screen is displayed. The “Log and Reports (MSS)” option is selected and the log files are displayed on the screen.	
330	DAAC Ingest/Distribution Technician: Receives a data insert request validation message on the screen.	
340	Expected Result: The Processing subsystem sends a Data Insert Request to the Science Data Server. Receipt of the request is logged and a request identifier is associated with the Data Insert Request.	
350	DAAC Ingest/Distribution Technician: Continues to receive and review status concerning the data insert requests. Accesses the Data Server System Management screen and selects the “Requests” option.	

360	Expected Result: The queued Data Insert Request is reached and processing begins. Associated data granules and metadata are transferred from the Processing Subsystem to the Data Server working storage. Data transfer status (including recoverable errors) are indicated in the event log (via MSS Logging Services). The metadata update file(s) produced by the associated data product PGEs are validated for completeness and correctness. Validation success or failure is logged (via MSS Logging Services) with the associated Data Insert Request Identifier and the appropriate status message is returned to the Processing Subsystem.	
370	DAAC Ingest/Distribution Technician: Accesses the Archive Activity screen and selects the “Archive Activity Log” option to view information concerning the archive activities of the data insert request.	
380	Expected Result: The Archive Activity Log displays each data product being stored and storage status of each storage operation.	
381	DAAC Ingest/Distribution Technician: Accesses the Archive Activity Log screen, selects the sort option of “Time & Date”. Views the following information on the screen: Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	
382	Expected Result: The Archive Activity Log screen displays information pertaining to the data granules contained within the Data Storage Request.	
390	DAAC Ingest/Distribution Technician: Accesses the Inventory Update Log screen and selects the “Time & Date”, “Requester”, “Request ID”, “Volume” and “UR” options to generate a report concerning the contents of the inventory.	
400	Expected Result: The Inventory Update Log screen is accessed and displays the following fields “Time & Date”, “Request ID”, “Requester Name”, “Volume Name”, “UR”, and “Checksum”. A checksum value is calculated for each data object associated with each granule. The checksum value, storage status, and other selected metadata is forwarded to the Science Data Server in a status message upon completion of the Data Storage Request.	
410	DAAC Ingest/Distribution Technician: Continues to examine the progress of the data insert request by selecting the “Log and Reports (MSS)” option from the Storage Management screen.	
420	Expected Result: Science Data Server receives and logs the Data Storage Request status message from Storage Management. The additional metadata items are validated. The PGE produced metadata update file and the storage management provided metadata are loaded into the metadata database. The status of the metadata load is entered in the event log (via MSS Logging Services).	
430	DAAC Ingest/Distribution Technician, DAAC Archive Manager, and the GSFC V0 DAAC: Receive notice concerning the status of the data insert request(s).	
440	Expected Result: The Science Data Server logs completion of the Data Insert Request in the event log and reports completion of the Data Insert Request to the DAAC Archive Manager, DAAC Ingest/Distribution Technician, and the GSFC V0 DAAC.	

450	DAAC Ingest/Distribution Technician: Reviews the progress on subscription processing by accessing the Science Data Server Main Window Screen and selecting the “Subscriptions” option to view subscription submitted for the data.	
460	Expected Result: The Science Data Server examines the event list for all subscriptions for that event. Subscription notifications are sent to the GSFC V0 DAAC	
470	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the newly inserted data products.	
480	Expected Result: The queried TOMS Ozone Ancillary Data products are located in the GSFC ECS DAAC inventory and displayed on the screen.	
490	DAAC Ingest/Distribution Technician: Accesses the Search and Order Tool to do a query for the TOMS Ozone Ancillary Data.	
500	Expected Result: The TOMS Ozone Ancillary Data is located in the inventory as a single entity of logically grouped sets of data.	
490	DAAC Ingest/Distribution Technician: Logs off of the system.	
500	Expected Result: Log off procedures are completed.	
<b>Data Reduction and Analysis Steps:</b> 1. Review Ingest History Log for the following information: <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul> 2. Review MSS Event Log 3. Review “Ingest Data Summary Report”		

**Data Reduction and Analysis Steps cont. :**

4. Review “Ingest Error Summary” Report for the following entries:
  - Error Type
  - Error Count
5. Review Validation Reports for the following information extracted from the metadata:
  - a. Metadata parameters stored in a dataset specific format
  - b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range
  - c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set
  - d. That the metadata parameter syntax is correct
  - e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)
  - f. That date/time values include a valid month, day of month, hour, minute, and second
  - g. That date/time values include a year within a range specific for that date/time value
6. Review “Inventory Update Log” for the following entries:
  - Time and Date
  - Request ID
  - Requester Name
  - Volume Name
  - UR
  - Checksum
7. Review “Archive Activity Log” for the following entries:
  - Time and Date
  - Request ID
  - Client ID
  - Operation
  - Filename
  - Archive Name
  - Volume Name

**Signature:**

**Date:**

### 9.2.1.3 Ingest, Validate, and Archive Migration Version 0 Documentation from the V0 DAAC

<b>TEST Procedure No.:</b> A090210.040\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Ingest, Validate, and Archive Migration Version 0 Documentation from the V0 DAAC		
<b>Objective:</b> The purpose of this test is to verify the ability of the GSFC ECS DAAC to receive Migration Version 0 documentation from the GSFC V0 DAAC. This procedure verifies that the GSFC V0 DAAC notifies ECS of the availability of the documentation. Verification is made to ensure that all of the Version 0 documentation is ingested, accounted for, validated, and archived.  <b>NOTE: For the purpose of testing the documentation interface between the GSFC ECS DAAC and the GSFC V0 DAAC, this test will only ingest two (2) Version 0 migration document sets. However, all of the possible data sets are listed in the test inputs section. The document sets to be ingested will be determined prior to performing this test and will be the corresponding documentation for the Version 0 migration and TOMS ancillary data sets ingested in test procedures #A090210.020\$G and #A090210.030\$G.</b>		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0250#A	This requirement is verified through test. Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications networks c. Hardcopy media The INGST CI must provide the capability to electronically transfer data to be ingested into a specific GSFC ECS DAAC location. This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure # A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC. According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.	
DADS0310#A	This requirement is verified through test. Each DADS shall verify that data came from an approved/authorized source. The INGST CI must verify that the external data provider is an authorized provider of data to be ingested at the GSFC DAAC.	
DADS0465#A	This requirement is verified through test. The DADS shall provide storage for the following Version 0 data: a. Standard Products b. Associated correlative data sets c. Associated ancillary data sets d. Associated calibration data sets e. Associated metadata f. Documents g. Algorithms The GSFC DAAC must provide storage for Version 0 data. The SDSRV CI must interface with the STMGT CI to provide storage for migration Version 0 documentation. The DAAC Ingest/Distribution Technician	

	<p>verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letters (a thru e, and g). Sub-letters (a, e, and f) are covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC.</p> <p><b>According to Tom Dopplick's cc:mail message dated 06/26/96, initially the system will only handle standard products, associated metadata, and documents for Version 0 migration data.</b></p>
DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of data.</p> <p>The INGST CI must return data check status to the provider of the data.</p> <p>The SDSRV CI must send storage status to the INGST CI indicating the completion of the archive process. The DAAC Ingest/Distribution Technician must have the capability to view the status of ongoing ingest requests including the following information: external data provider, ingest request identifier, total ingest data volume, and request state.</p>
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS1100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.</p> <p>The GSFC DAAC operations staff (i.e., DAAC Ingest/Distribution Technician) must be able to select and extract Inventory Logs for selected time periods. The STMGT CI must record each archived data item in the Inventory Update Log.</p>

DADS1380#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.</p> <p>The INGST CI must report status on the performance of ingest requests to the MSS with the following: file transfer duration, file processing duration, and data insert duration.</p>
DADS1390#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between elements of the ECS and the DADS.</p> <p>The INGST CI must provide authorized operations staff the capability to view the status of ongoing ingest processing. The DAAC Ingest/Distribution must have the capability to view the following information: External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.</p>
DADS1800#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain data storage inventories defining the physical location of files.</p> <p>The STMGT CI must be capable of tracking the physical location of each data granule via use of the File Directory. The DAAC Ingest/Distribution Technician performs a search of the File Directory for the V0 migration data products.</p>
IMS-0300#A	<p>This requirement is verified through inspection.</p> <p>The IMS shall maintain a log of all information update activity.</p> <p>The ADSRV CI must maintain a log of all information read, write, update, and delete activity. The DAAC Ingest/Distribution Technician reviews the Event Log to verify that all information update activity has been recorded.</p>
IMS-0490#A	<p>This requirement is verified through demonstration.</p> <p>The IMS shall provide the capability to ingest documentation in a number of digital text formats, at a minimum, the following:</p> <ul style="list-style-type: none"> <li>a. ASCII text</li> <li>b. Microsoft WORD</li> <li>c. HTML</li> <li>d. Interleaf</li> <li>e. Postscript</li> <li>f. WordPerfect</li> </ul> <p>The DDSRV CI must provide the capability to ingest documentation in ASCII, Microsoft WORD, HTML, Interleaf, Postscript, and WordPerfect format.</p>
V0-0290#A	<p>This requirement is verified through test.</p> <p>The DAACs V0 DADS shall have the capability to send and ECS shall have the capability to receive Migration Documentation Data.</p> <p>The GSFC ECS DAAC must receive Migration Documentation Data from the GSFC V0 DAAC. The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with information pertaining to the migration documentation data.</p>

<b>Test Inputs: Data Availability Schedules</b>				
<b>Data Set Name</b>	<b>Data Set ID</b>	<b>File Name</b>	<b>Description</b>	<b>Version</b>
V0_TOMS_DOC_001	TBD	TBD	Version 0 TOMS ancillary data documentation	TBD
V0_CZCS_DOC_001	TBD	TBD	Version 0 CZCS documentation	TBD
V0_AVHRR_DOC_001	TBD	TBD	Version 0 AVHRR documentation	TBD
V0_SSM/I_DOC_001	TBD	TBD	Version - SSM/I documentation	TBD
V0_TOVS_DOC_001	TBD	TBD	Version 0 TOVS documentation	TBD
V0_SMMR_DOC_001	TBD	TBD	Version 0 SMMR documentation	TBD



<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	DAAC Ingest/Distribution Technician: Invokes the Ingest Status Monitor Tool from the main Ingest GUI screen.	
40	Expected Result: The Ingest Status Monitor Tool is invoked and the screen identifies ongoing ingest requests (stored in Sybase tables) and displays them for the DAAC Ingest/Distribution Technician.	
50	GSFC V0 DAAC: Sends notification to the GSFC ECS DAAC concerning the availability of Version 0 migration documentation.	
60	Expected Result: The GSFC ECS DAAC receives notification that the Version 0 migration documentation is ready for ingest. The INGST CSCI automatically checkpoints request information extracted from the DAN into a Sybase data base. The system automatically coordinates the V0 documentation transfer with the V0 migration facility.	
70	DAAC Ingest/Distribution Technician: Periodically reviews the Ingest Status Monitor display. Looks for ingest requests that have been queued for an unexpected period.	
80	Expected Result: The Ingest Status Monitor displays all on-going ingest requests.	
90	DAAC Ingest/Distribution Technician: Periodically reviews the MSS Event Log to visually determine anomalous conditions.	
91	Expected Result: The system automatically logs events by means of the MSS Event Logging capability. Entries recorded in this log include detection of out-of-range metadata values, incompletely-transferred data files, etc.	
92	DAAC Ingest/Distribution Technician: Accesses the "Ingest Status Monitoring GUI Screen" to view the status of ongoing ingest processing. The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	
93	Expected Result: The "Ingest Status Monitoring GUI Screen" displays the necessary information concerning the status of ongoing ingest processing.	
110	DAAC Ingest/Distribution Technician: Observes the removal of the completed ingest request from the Status Monitor display.	
120	Expected Result: A data check status message is automatically returned to the GSFC V0 DAAC by means of a DDN.	
130	GSFC V0 DAAC: Sends a DDA to the GSFC ECS DAAC indicating receipt of the DDN.	

140	Expected Result: The GSFC ECS DAAC receives a DDA from the GSFC V0 DAAC. Upon receipt of the DDA, the system deletes the ongoing ingest request information. Summary information is retained in the Sybase data base (as Ingest History Log data).	
150	DAAC Ingest/Distribution Technician: Views summary information concerning the completed ingest requests via the GUI Ingest History Log tool.	
160	Expected Result: The system provides access to the Ingest History Log which contains summary information on the following: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
170	DAAC Ingest/Distribution Technician: Accesses the Ingest Summary Report GUI Screen and selects both the “Ingest Data Summary Report” and “Ingest Error Report” options. Generates and reviews both copies of the summary reports. <b>See Data Reduction and Analysis section.</b>	
180	Expected Result: The system generates the summary reports detailing the completed ingest requests, including completion status, data volume ingested, etc.	
190	DAAC Ingest/Distribution Technician: Invokes the DSS System Management Tool and accesses the Storage Management screen. Examines the progress of a particular insert request on the screen by selecting the “Log and Reports (MSS)” option from the screen.	
200	Expected Result: The DSS System Management Tool is accessed and the Storage Management screen is displayed. The “Log and Reports (MSS)” option is selected and the log files are displayed on the screen.	
210	DAAC Ingest/Distribution Technician: Receives a data insert request validation message on the screen.	
220	Expected Result: The Processing subsystem sends a Data Insert Request to the Science Data Server. Receipt of the request is logged and a request identifier is associated with the Data Insert Request.	
230	DAAC Ingest/Distribution Technician: Continues to receive and review status concerning the data insert requests. Accesses the Data Server System Management screen and selects the “Requests” option.	
240	Expected Result: The queued Data Insert Request is reached and processing begins.	
250	DAAC Ingest/Distribution Technician: Accesses the Archive Activity screen and selects the “Archive Activity Log” option to view information concerning the archive activities of the data insert request.	
260	Expected Result: The Archive Activity Log displays each data product being stored and storage status of each storage operation.	
261	DAAC Ingest/Distribution Technician: Accesses the Archive Activity Log screen, selects the sort option of “Time & Date”. Views the following information on the screen: Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	

262	Expected Result: The Archive Activity Log screen displays information pertaining to the data granules contained within the Data Storage Request.	
270	DAAC Ingest/Distribution Technician: Accesses the Inventory Update Log screen and selects the “Time & Date”, “Requester”, “Request ID”, “Volume” and “UR” options to generate a report concerning the contents of the inventory.	
280	Expected Result: The Inventory Update Log screen is accessed and displays the following fields “Time & Date”, Request ID”, “Requester Name”, “Volume Name”, “UR”, and “Checksum”. A checksum value is calculated for each data object associated with each granule. The checksum value, storage status, and other selected metadata is forwarded to the Science Data Server in a status message upon completion of the Data Storage Request.	
290	DAAC Ingest/Distribution Technician: Continues to examine the progress of the data insert request by selecting the “Log and Reports (MSS)” option from the Storage Management screen.	
300	Expected Result: Science Data Server receives and logs the Data Storage Request status message from Storage Management.	
310	DAAC Ingest/Distribution Technician, DAAC Archive Manager, and GSFC V0 DAAC: Receive notice concerning the status of the data insert request(s).	
320	Expected Result: The Science Data Server logs completion of the Data Insert Request in the event log and reports completion of the Data Insert Request to the DAAC Archive Manager, DAAC Ingest/Distribution Technician, and the GSFC V0 DAAC.	
330	DAAC Ingest/Distribution Technician: Reviews the progress on subscription processing by accessing the Science Data Server Main Window Screen and selecting the “Subscriptions” option to view subscription submitted for the data.	
340	Expected Result: The Science Data Server examines the event list for all subscriptions for that event. Subscription notifications are sent to the appropriate entities.	
350	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the newly inserted data products.	
360	Expected Result: The Science Data Server sends an Advertisement Update Message to the Advertisement Server to advertise the new data.	
370	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the Version 0 migration documentation in ASCII text.	
380	Expected Result: The GSFC ECS DAAC inventory returns the ASCII text version of the Version 0 migration documentation.	
390	DAAC Ingest/Distribution Technician: Downloads the Version 0 migration documentation in the ASCII text format.	
400	Expected Result: The system reads and converts the Version 0 migration documentation in the ASCII text format.	
410	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the Version 0 migration documentation in Microsoft WORD text.	

420	Expected Result: The GSFC ECS DAAC inventory returns the Microsoft WORD text version of the Version 0 migration documentation.	
430	DAAC Ingest/Distribution Technician: Downloads the Version 0 migration documentation in the Microsoft WORD text format.	
440	Expected Result: The system reads and converts the Version 0 migration documentation in the Microsoft WORD text format.	
450	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the Version 0 migration documentation in HTML text.	
460	Expected Result: The GSFC ECS DAAC inventory returns the HTML text version of the Version 0 migration documentation.	
470	DAAC Ingest/Distribution Technician: Downloads the Version 0 migration documentation in the HTML text format.	
480	Expected Result: The system reads and converts the Version 0 migration documentation in the HTML text format.	
490	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the Version 0 migration documentation in Interleaf text.	
500	Expected Result: The GSFC ECS DAAC inventory returns the Interleaf text version of the Version 0 migration documentation.	
510	DAAC Ingest/Distribution Technician: Downloads the Version 0 migration documentation in the Interleaf text format.	
520	Expected Result: The system reads and converts the Version 0 migration documentation in the Interleaf text format.	
530	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the Version 0 migration documentation in Postscript text.	
540	Expected Result: The GSFC ECS DAAC inventory returns the Postscript text version of the Version 0 migration documentation.	
550	DAAC Ingest/Distribution Technician: Downloads the Version 0 migration documentation in the Postscript text format.	
560	Expected Result: The system reads and converts the Version 0 migration documentation in the Postscript text format.	
570	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the Version 0 migration documentation in WordPerfect text.	
580	Expected Result: The GSFC ECS DAAC inventory returns the WordPerfect text version of the Version 0 migration documentation.	
590	DAAC Ingest/Distribution Technician: Downloads the Version 0 migration documentation in the WordPerfect text format.	
600	Expected Result: The system reads and converts the Version 0 migration documentation in the WordPerfect text format.	
610	DAAC Ingest/Distribution Technician: Logs off of the system.	

620	Expected Result: Log off procedures are completed.	
<b>Data Reduction and Analysis Steps:</b> <ol style="list-style-type: none"> <li>Review the "Ingest History Log" for the following information: <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul> </li> <li>Review the "MSS Event Log"</li> <li>Review the "Ingest Data Summary Report"</li> <li>Review the "Ingest Error Summary Report" for the following entries: <ul style="list-style-type: none"> <li>- Error Type</li> <li>- Error Count</li> </ul> </li> <li>Review the "Inventory Update Log" for the following entries: <ul style="list-style-type: none"> <li>- Time and Date</li> <li>- Request ID</li> <li>- Requester Name</li> <li>- Volume Name</li> <li>- UR</li> <li>- Checksum</li> </ul> </li> <li>Review the "Archive Activity Log" for the following entries: <ul style="list-style-type: none"> <li>- Time and Date</li> <li>- Request ID</li> <li>- Client ID</li> <li>- Operation</li> <li>- Filename</li> <li>- Archive Name</li> <li>- Volume Name</li> </ul> </li> </ol>		
<b>Signature:</b>		<b>Date:</b>

#### **9.2.1.4 Ingest, Validate, and Archive SAGE II Ancillary Data from the V0 DAAC**

This test procedure is not applicable to the ECS System Acceptance Test Procedures - Volume 2 GSFC Procedures (411/VE1).

#### **9.2.2 Higher Level Processed Data Receipt from the TSDIS to the MSFC DAAC Sequence**

This sequence has been combined with sequence # 9.2.3 - Higher Level Processed Data Receipt from the TSDIS to the GSFC DAAC Sequence.

#### **9.2.3 Higher Level Processed Data Receipt from the TSDIS to the GSFC DAAC Sequence**

The Higher Level Processed Data Receipt from the TSDIS to the GSFC DAAC Sequence verifies the ability to store TRMM VIRS, PR, TMI, and GV higher level standard products (Level 1A - 3B), associated metadata, and documentation at the GSFC DAAC. This sequence of tests verifies that TSDIS sends the GSFC DAAC a data availability schedule/status indicating that the TRMM VIRS, PR, TMI, and GV data is available and ready for ingest. The data includes standard data products generated by TSDIS, metadata, browse data, science software, and documentation. This sequence verifies the capability of the GSFC DAAC to perform validation and compliance checks on the data and permanently store the data in its archive. The ability of TRMM users to receive status on their ingested VIRS, PR, TMI, and GV data products is also verified in this sequence.

This sequence also covers “fault” conditions and resolutions. There are several fault/error conditions added during test procedure #A090240.030\$G. Faults covered involve invalid DAN receipt, metadata failure checks, and data storage failures.

**Configuration:** The subsystems needed to perform this sequence of tests are as follows: CSS/MSS, DPS, DSS, INS, ISS & PLS. Refer to Appendix D for additional detail.

**External Interfaces:** The external interfaces (i.e., other ECS sites and data sources) needed for a sequence (both real and simulated) are listed:

SMC

TSDIS (simulated)

**Operator Position(s):** The operator positions from the ECS Maintenance and Operations Descriptions document (607/OP2) needed to support this sequence are listed:

DAAC Ingest/Distribution Technician

DAAC Resource Planner

DAAC Archive Manager

**Operational Scenario(s):** The operations scenarios, taken from the Operations Scenarios for the ECS Project: Release-A document (605/OP1), that were used to develop tests in this sequence of tests are listed:

Resource Planning Scenario (section 3.7.1)

TRMM Data Ingest “Fault” Scenario (section 3.9.2)

TRMM Ancillary Data Ingest Scenario (section 3.9.3)

Data Insertion Scenario (nominal) (section 3.10.2)

Data Insertion Scenario (fault) (section 3.10.3)

#### **Test Dependencies:**

There are no test dependencies needed for this sequence of tests.

#### **9.2.3.1 Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS**

<b>TEST Procedure No.:</b> A090240.010\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS		
<b>Objective:</b> The purpose of this test is to verify the ability of the GSFC DAAC to receive VIRS, PR, TMI, and GV standard products (Level 1A - 3B) and associated metadata via TSDIS. This procedure verifies that the GSFC DAAC receives data availability notices from TSDIS indicating the availability of the VIRS, PR, TMI, and GV data products, metadata, browse data, and science software. Verification is made to ensure that all of the TSDIS data is ingested, accounted for, validated, and archived.  <b>NOTE: For the purpose of testing the interface between the GSFC ECS DAAC and the TSDIS, this test will ingest one (1) of each of the following TSDIS data sets: VIRS, PR, TMI, and GV listed in the “Test Inputs” section. One data set each for VIRS, PR, TMI, and GV, listed in the test inputs section, will be ingested and verified during this test since they are mentioned in requirements TRMM3010#A, TRMM3030#A, TRMM3040#A, TRMM3050#A, TRMM3070#A, TRMM4010#A, TRMM4030#A, and TRMM4040#A.</b>		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0250#A	This requirement is verified through test. Each DADS shall receive, at a minimum, data in the following forms: <ol style="list-style-type: none"> <li>Physical electronic media</li> <li>Electronic communications networks</li> <li>Hardcopy media</li> </ol> The INGEST CI must provide the capability to electronically transfer data to be ingested into a specific GSFC ECS DAAC location. This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC. According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.	
DADS0290#A	This requirement is verified through test. Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.	

	<p>The INGST CI must check selected parameters from extracted metadata to verify:</p> <ol style="list-style-type: none"> <li>Metadata parameters stored in a dataset specific format</li> <li>For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set</li> <li>That the metadata parameter syntax is correct</li> <li>For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>That date/time values include a valid month, day of month, hour, minute, and second</li> <li>That date/time values include a year within a range specific for that date/time value.</li> </ol>
DADS0300#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.</p> <p>The GSFC DAAC must generate status indicating the success or failure of metadata and data consistency checks. The DAAC Ingest/Distribution Technician verifies that the History Log or Error Log, whichever is appropriate, is updated with the results of the data consistency checks.</p> <p>This test procedure does not cover reference to “failure”. Reference to “failure” is covered in test procedure #A090240.030\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault).</p>
DADS0310#A	<p>This requirement is verified through test.</p> <p>Each DADS shall verify that data came from an approved/authorized source.</p> <p>The INGST CI must verify that the external data provider is an authorized provider of data to be ingested at the GSFC DAAC.</p>
DADS0350#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate the following metadata items, at a minimum:</p> <ol style="list-style-type: none"> <li>Unique Granule Id for L0</li> <li>Date and time of storage</li> <li>Physical location</li> <li>Data check status</li> <li>Unique format identifiers</li> </ol> <p>The STMGT CI must store the following metadata: granule id, date and time of storage, data check status and data format type. The DAAC Ingest/Distribution verifies that the metadata items have been generated by querying the inventory database.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
DADS0370#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the IMS with metadata on newly stored data granules.</p> <p>The GSFC DAAC must update directories with metadata on the newly stored data granules.</p>
DADS0440#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide storage, at a minimum, for the following EOS data:</p> <ol style="list-style-type: none"> <li>Standard Products</li> </ol>



	<ul style="list-style-type: none"> <li>b. Associated correlative data sets</li> <li>c. Associated ancillary data sets</li> <li>d. Associated calibration data sets</li> <li>e. Associated metadata</li> <li>f. Documents</li> <li>g. Algorithms</li> <li>h. Format descriptions (e.g., HDF spec.)</li> </ul> <p>The GSFC DAAC must provide storage for EOS data. The SDSRV CI must interface with the STMGT CI to provide storage for standard products; associated correlative, calibration and ancillary data sets; associated metadata; documents; algorithms; and format descriptions. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letter (f). Sub-letter (f) is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
DADS0475#A	<p>This requirement is verified through test.</p> <p>The DADS shall provide storage for the following TRMM data:</p> <ul style="list-style-type: none"> <li>a. L1A-L4 equivalent data products</li> <li>b. Associated correlative data sets</li> <li>c. Associated ancillary data sets</li> <li>d. Associated calibration data sets</li> <li>e. Associated metadata</li> <li>f. Documents</li> <li>g. Algorithms</li> </ul> <p>The GSFC DAAC must provide storage for the following TRMM data: L1A-L4 equivalent data products; associated correlative, ancillary, and calibration data sets; associated metadata; documents; and algorithms. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letter (f). Sub-letter (f) is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
DADS0490#A	<p>This requirement is verified through test.</p> <p>Each DADS shall archive Level 1B - Level 4 data products.</p> <p>The SDSRV CI must process Data Insert Requests for the TSDIS Level 1 and higher data products. The system must check the following fields on the Data Insert Request for correct data entries: request identifier, date of request, priority information, data type and original identifier. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p>
DADS0770#A	<p>This requirement is verified through test.</p> <p>The DADS shall reformat data sets in one of the approved standard formats including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format for TSDIS data products.</p>
DADS0800#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format for TSDIS products.</p>

DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of data. The INGST CI must return data check status to the provider of the data. The SDSRV CI must send storage status to the INGST CI indicating the completion of the archive process. The DAAC Ingest/Distribution Technician must have the capability to view the status of ongoing ingest requests including the following information: external data provider, ingest request identifier, total ingest data volume, and request state.</p>
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS1100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.</p> <p>The GSFC DAAC operations staff (i.e., DAAC Ingest/Distribution Technician) must be able to select and extract Inventory Logs for selected time periods. The STMGT CI must record each archived data item in the Inventory Update Log.</p>
DADS1380#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.</p> <p>The INGST CI must report status on the performance of ingest requests to the MSS with the following: file transfer duration, file processing duration, and data insert duration.</p>
DADS1390#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between elements of the ECS and the DADS.</p>

	<p>The INGEST CI must provide authorized operations staff the capability to view the status of ongoing ingest processing. The DAAC Ingest/Distribution must have the capability to view the following information: External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.</p>
DADS1510#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall ensure that IMS acknowledges receipt of metadata on all products stored in the DADS.</p> <p>The SDSRV CI must return a completion status to the provider of data only after all data and associated metadata has been successfully stored.</p>
DADS1780#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall provide the capability to store as a single entity logically grouped sets of data.</p> <p>The STMGT CI must support the capability to logically group a set of granule ids such that the set can be referenced by a single identifier.</p>
DADS1795#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall update internal file directories with the unique Data set ID.</p> <p>The STMGT CI must maintain a unique data set id for each data item in its File Directory. The DAAC Ingest/Distribution Technician queries the File Directory database to verify that each TSDIS data item has a unique data set id.</p>
DADS1800#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain data storage inventories defining the physical location of files.</p> <p>The STMGT CI must be capable of tracking the physical location of each data granule via use of the File Directory. The DAAC Ingest/Distribution Technician performs a search of the File Directory for the TRMM VIRS, PR, TMI, and GV data products.</p>
DADS1805#A	<p>This requirement is verified through demonstration.</p> <p>The DADS shall provide an inventory system capable, at a minimum, of the following:</p> <ol style="list-style-type: none"> <li>Accepting the number of new inventory entries, one per granule, for the number of granules per day as specified in Appendix C</li> <li>Uniquely identifying each data granule</li> <li>Tracking the physical location of each data granule.</li> </ol> <p>The STMGT CI must maintain an Inventory Update Log. The following information is recorded in the log: time and date of update, unique data identifier, archive media name, source of data, storage device name and requester.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in the End-To-End Scenario Group.</p>
IMS-0300#A	<p>This requirement is verified through inspection.</p> <p>The IMS shall maintain a log of all information update activity.</p> <p>The ADSRV CI must maintain a log of all information read, write, update, and delete activity. The DAAC Ingest/Distribution Technician reviews the Event Log to verify that all information update activity has been recorded.</p>
IMS-0320#A	<p>This requirement is verified through inspection.</p> <p>Standard Product related metadata shall contain, at a minimum:</p> <ol style="list-style-type: none"> <li>Keywords and glossary from investigators</li> <li>Keywords, synonyms, and glossary for cross-product and cross-directory referencing</li> </ol>

	<ul style="list-style-type: none"> <li>c. Identifiers for locating products in the DADS archive by granule</li> <li>d. Documentation on algorithms, including version history, authors, written description of product, equations, and references</li> <li>e. Documentation on instrument(s) and spacecraft(s) including history of housekeeping and ancillary parameters, discipline characterization, calibration parameters, key individuals, and references</li> <li>f. Identifiers, algorithms, written descriptions, equations, authors, and references associated with static browse products and subsetting, subsampled, and summary data products</li> <li>g. Published papers, research results, significant results, and references by author and date</li> <li>h. Key organizations and personnel for all product-related DAACs, ADCs, and ODCs</li> <li>i. Granule-specific information as listed in Tables C-10 and C-11 in Appendix C</li> </ul> <p>The SDSRV CI Schema Information must include for each Data Type the Data Type Attributes for that Data Type and the Valid Values associated with each Data Type Attribute.</p> <p>This test procedure does not cover reference to sub-letter (h).</p>
IMS-0330#A	<p>This requirement is verified through demonstration.</p> <p>The metadata maintained by the IMS shall provide a cross reference that relates science data to the following at a minimum:</p> <ul style="list-style-type: none"> <li>a. Calibration data, navigation data, and instrument engineering data</li> <li>b. Processing algorithms used for data generation at the PGS</li> <li>c. Software used for data generation at the PGS</li> <li>d. Parameters used for data generation at the PGS</li> <li>e. Input data used for data generation at the PGS</li> <li>f. Data recipients</li> <li>g. The PGS at which the data was processed</li> <li>h. QA and validation data, reports, and algorithms</li> </ul> <p>The SDSRV CI must have the ability to store references to calibration data, instrument engineering data, production history data, and QA statistics as metadata for science data.</p> <p>This test procedure does not cover sub-letters (b thru e, and g). Sub-letters (b thru e, and g) are covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
IMS-0340#A	<p>This requirement is verified through inspection.</p> <p>The metadata maintained by the IMS shall contained content-based summary information, including statistical summaries and granule features, for all ECS standard and special products.</p> <p>The SDSRV CI must support inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.</p>
SDPS0080#A	<p>This requirement is verified through test.</p> <p>The SDPS shall archive, manage, and quality check and account for all science data received from the EPDSs and ancillary data received from the EPDSs, the SCFs, the ADCs, other DAACs, PIs, and the other EOS science users.</p> <p>The GSFC DAAC must archive, manage, and quality check and account for all ancillary data received from other EOS science users.</p> <p>This test procedure does not cover reference to “science data received from the EPDSs” and “ancillary data received from the EPDSs, the SCFs, the ADCs, other DAACs, and PIs”.</p>

TRMM3010#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the MSFC DAAC shall ingest TRMM standard products (Level 1A - 3B) for PR and TMI from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM standard products (Level 1A - 3B) for PR and TMI from TSDIS. The DAAC Ingest/Distribution Technician verifies that the TRMM data is recorded in the Ingest History Log.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3030#A	<p>This requirement is verified through test.</p> <p>The ECS MSFC DAAC shall ingest TRMM browse products for PR and TMI from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM browse products for PR and TMI from TSDIS. The DAAC Ingest/Distribution Technician verifies that the TRMM data is recorded in the Ingest History Log.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3040#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the MSFC DAAC shall ingest algorithms and documentation for PR and TMI from TSDIS.</p> <p>The GSFC ECS DAAC must ingest science software for PR and TMI from TSDIS. The DAAC Ingest/Distribution Technician verifies that the PR and TMI science software data are recorded in the Ingest History Log.</p> <p>This test procedure does not cover reference to “documentation”. Reference to documentation is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3050#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the MSFC DAAC shall ingest TRMM Ground Validation (GV) data products and associated metadata from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM GV data products and associated metadata from TSDIS. The DAAC Ingest/Distribution Technician verifies that the GV data products and associated metadata are recorded in the Ingest History Log.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3060#A	<p>This requirement is verified through test.</p> <p>The PR, TMI, and GV data ingested by ECS shall be archived in the ECS systems at the MSFC DAAC.</p> <p>The GSFC ECS DAAC must archive the PR, TMI, and GV data ingested from TSDIS. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated, the data archived, and a data storage notice sent to TSDIS.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3070#A	<p>This requirement is verified through demonstration.</p> <p>The ECS systems at the MSFC DAAC shall ingest TRMM data files and data products, including metadata, daily.</p> <p>The GSFC ECS DAAC must ingest TRMM data files and data products, including metadata, daily. The DAAC Ingest/Distribution Technician verifies that a data availability notice is sent prior to ingest of the TRMM data.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3080#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide a schedule of TRMM product delivery to the ECS systems at the MSFC DAAC.</p>

	<p>The GSFC ECS DAAC must receive a schedule electronically from TSDIS of TRMM product delivery. The DAAC Ingest/Distribution Technician verifies that TSDIS sends a data availability schedule electronically indicating the availability of the TRMM TSDIS data for ingest.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM4010#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the GSFC DAAC shall ingest TRMM standard products (Level 1A - 3B) for VIRS from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM standard products (Level 1A - 3B) for VIRS from TSDIS. The DAAC Ingest/Distribution Technician verifies that the TRMM standard products are recorded in the Ingest History Log.</p>
TRMM4030#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the GSFC DAAC shall ingest TRMM browse products for VIRS from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM browse products for VIRS from TSDIS. The DAAC Ingest/Distribution Technician verifies that the VIRS browse products are recorded in the Ingest History Log.</p>
TRMM4040#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the GSFC DAAC shall ingest TSDIS algorithms and documentation for VIRS.</p> <p>The GSFC ECS DAAC must ingest TSDIS science software and documentation for VIRS. The DAAC Ingest/Distribution Technician verifies that the VIRS science software and documentation is recorded in the Ingest History Log.</p> <p>This test procedure does not cover reference to “documentation”. Reference to “documentation” is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
TRMM4050#A	<p>This requirement is verified through test.</p> <p>The VIRS data ingested from TSDIS by ECS shall be archived at the ECS systems at the GSFC DAAC.</p> <p>The GSFC ECS DAAC must archive VIRS data ingested from TSDIS. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated, the data archived, and storage notice is sent to TSDIS.</p>
TRMM4070#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide a schedule of TRMM product delivery to the ECS systems at the GSFC DAAC.</p> <p>The GSFC ECS DAAC must receive a schedule electronically of TRMM product delivery from TSDIS. The DAAC Ingest/Distribution Technician verifies that TSDIS electronically sends a data availability notice indicating the availability of the TRMM data ingest for archive.</p>
TRMM5010#A	<p>This requirement is verified through test.</p> <p>ECS shall ingest TRMM metadata, and browse from TSDIS along with the TRMM standard products in the ECS format.</p> <p>The GSFC DAAC must ingest TRMM metadata, and browse data from TSDIS along with TRMM standard products in the standard ECS format.</p>
TRMM5020#A	<p>This requirement is verified through demonstration.</p> <p>Availability of TRMM data products (PR, VIRS, TMI, and GV) shall be based on the TSDIS product schedule, and an electronic status mechanism shall be available for late products.</p> <p>The TSDIS must submit a product schedule based on the availability of TRMM data products. The DAAC Ingest/Distribution Technician verifies that a TSDIS product schedule is received indicating the availability of the</p>

	TRMM data products. Verification is also made that status messages are sent indicating the delayed arrival of anticipated data products.
TRMM5030#A	<p>This requirement is verified through test.</p> <p>ECS shall have the capability to ingest directory and guide information from TSDIS.</p> <p>The GSFC DAAC must be able to ingest directory and guide information from TSDIS. The INGEST CI must accept Network Ingest Requests to request automated electronic network ingest of a collection of data.</p>
TRMM5040#A	<p>This requirement is verified through test.</p> <p>ECS shall have the capability to archive and distribute standard TRMM data files and products (including VIRS, PR, and TMI data, metadata, GV data, algorithms and documentation) as provided and produced by TSDIS and the TRMM Science Team.</p> <p>The GSFC DAAC must be able to archive and distribute standard TRMM data files and products as provided and produced by TSDIS and the TRMM Science Team. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated, the TRMM data archived, and a storage notice sent to the provider of the ingest data.</p> <p>This test procedure does not cover “distribute standard TRMM data files and products” or any references to “documentation”. Reference to “distribute standard TRMM data files and products” is covered in sequence #12.2.2. Reference to “documentation” is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
TRMM5060#A	<p>This requirement is verified through demonstration.</p> <p>ECS shall provide standard information management functions for browse, and order of data and products provided by TSDIS and order of data and products provided by TSDIS and delivered to the MSFC and GSFC DAACs (including VIRS, PR and TMI data, metadata, GV data, TRMM Science Team algorithms and documentation).</p> <p>The Advertising directory at the GSFC DAAC must provide and maintain information that described TSDIS data products archived at the site. The DAAC Ingest/Distribution Technician queries the directory for data products ingested from TSDIS.</p> <p>This test procedure does not cover reference to “documentation”. Reference to “documentation” is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
TRMM5100#A	<p>This requirement is verified through test.</p> <p>ECS shall provide standard information management functions for browse, and order of data and products provided by TSDIS and delivered to the MSFC and GSFC DAACs (including VIRS, PR, and TMI data, metadata, GV data, TRMM Science Team algorithms and documentation).</p> <p>The GSFC ECS DAAC must provide standard information management functions for browse, and order of data and products provided by TSDIS. The ADSRV CI must allow DAAC operations staff the ability to search for TSDIS products that have been ingested, validated, and archived at the GSFC ECS DAAC.</p> <p>This test procedure does not cover reference to the “MSFC DAAC” since the TSDIS data sets to be ingested at the MSFC DAAC are now covered in this test procedure.</p>

<b>Test Inputs: Data Availability Schedules</b>				
<b>Data Set Name</b>	<b>Data Set ID</b>	<b>File Name</b>	<b>Description</b>	<b>Version</b>
VIRS1A_001	TBD	TBD	CCSDS SFDU; 16 files/day; 656.5 Mb	TBD
VIRS1B_001	TBD	TBD	CCSDS SFDU; 16 files/day; 737.7 Mb	TBD
VIRSBROWSE_001	TBD	TBD	CCSDS SFDU; 1 file/day; 8.3 Mb	TBD
VIRSALGO_001	TBD	TBD	ASCII Text; every 6 months	TBD
PR1A_001	TBD	TBD	CCSDS SFDU; 16 files/day	TBD
PR1B_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
PR1C_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
PR2A_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
PR3A_001	TBD	TBD	HDF/SDS; 1 file/month	TBD
PRBROWSE_001	TBD	TBD	HDF/SDS	TBD
PRALGO_001	TBD	TBD	ASCII Text	TBD
TMI1A_001	TBD	TBD	CCSDS SFDU; 16 files/day	TBD
TMI1B_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
TMI2A_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
TMI3A_001	TBD	TBD	HDF/SDS; 1 file/month	TBD
TMIBROWSE_001	TBD	TBD	HDF/SDS	TBD
TMIALGO_001	TBD	TBD	ASCII Text	TBD
GV1B_001	TBD	TBD	HDF/SDS; 24 files/day	TBD
GV1C_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A52_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A53_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A54_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A55_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A56_001	TBD	TBD	HDF/SDS; 17 files/month	TBD



GV2A57_001	TBD	TBD	HDF/SDS; 17 files/month	TBD
GV3A53_001	TBD	TBD	HDF/SDS; 10 files/5 days	TBD
GV3A54_001	TBD	TBD	HDF/SDS; 10 files/month	TBD
GV3A55_001	TBD	TBD	HDF/SDS; 10 files/month	TBD
GVBROWSE_001	TBD	TBD	HDF/SDS	TBD
GVALGO_001	TBD	TBD	ASCII Text	TBD
TMI/GV2B_001	TBD	TBD	HDF/SDS	TBD
TMI/GV3B42_001	TBD	TBD	HDF/SDS	TBD
TMI/GV3B43_001	TBD	TBD	HDF/SDS	TBD
TMI/GVBROWSE_001	TBD	TBD	HDF/SDS	TBD
TMI/GVALGO_001	TBD	TBD	ASCII Text	TBD

<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	DAAC Resource Planner: Invokes the Resource Planning Tool.	
40	Expected Result: The Resource Planning Tool is invoked.	
50	DAAC Resource Planner: Views the Resource Planning Tool GUI screen and options on their terminal.	
60	Expected Result: The Resource Planning Tool GUI displays the following options: - Edit - Review - Report - Plan - Configure	
70	DAAC Resource Planner: Selects the “Review” option from the Resource Planning Tool GUI screen.	
80	Expected Result: The current scheduled activities are displayed on the DAAC Resource Planner’s screen.	
90	DAAC Resource Planner: Reviews the current scheduled activities and verifies that resources have been allocated for the ingest of the TRMM data from TSDIS.	
100	Expected Result: Resource Planning Tool GUI displays the current scheduled activities on the screen and indicates that resources have been allocated for the ingest of data from TSDIS.	
110	DAAC Resource Planner: Exits the Resource Planning Tool GUI and notifies the DAAC Ingest/Distribution Technician that resources are available and ready for the ingest of the TSDIS TRMM data.	
120	Expected Result: Resource Planning Tool GUI is exited and the DAAC Ingest/Distribution Technician is notified on the availability of the resources necessary for ingesting data.	
130	DAAC Ingest/Distribution Technician: Enters a subscription requesting notification upon receipt of specific TRMM VIRS, PR, TMI, and GV data.	
140	Expected Result: The system stores the subscription concerning the VIRS, PR, TMI, and GV data pending receipt of the data.	
150	DAAC Ingest/Distribution Technician: Accesses the Main Ingest GUI screen and selects the “Monitor” option on the screen.	
160	Expected Result: The Ingest Status Monitor Tool is invoked and the screen identifies ongoing ingest requests (stored in Sybase tables) and displays them for the DAAC Ingest/Distribution Technician.	

170	Tester: Set up TSDIS simulator for transfer of specified data files equivalent to the required amount of data to be ingested.	
180	Expected Result: TSDIS simulator is read for transfer of the VIRS, PR, TMI, and GV data.	
190	TSDIS Simulator: Sends a Data Availability Schedule to the GSFC ECS DAAC.	
200	Expected Result: GSFC ECS DAAC receives a Data Availability Schedule from the TSDIS Simulator.	
210	DAAC Ingest/Distribution Technician: Receives notification that an e-mail message has been sent to their mailbox.	
220	Expected Result: DAAC Ingest/Distribution Technician reads the e-mail message concerning the schedule for the TSDIS data products.	
230	TSDIS Simulator: Sends a DAN to the GSFC ECS DAAC.	
240	Expected Result: GSFC ECS DAAC receives DAN.	
250	DAAC Ingest/Distribution Technician: Periodically reviews the Ingest Status Monitor display. Looks for ingest requests that have been queued for an unexpected period.	
260	<p>Expected Result: The system automatically extracts metadata from transferred TRMM data, checks the metadata, (e.g. range checks). Selected parameters from the extracted metadata are checked to verify:</p> <ul style="list-style-type: none"> <li>a. Metadata parameters stored in a dataset specific format</li> <li>b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specific set</li> <li>d. That the metadata parameter syntax is correct</li> <li>e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>f. That date/time values include a valid month, day of month, hour, minute, and second</li> <li>g. That date/time values include a year within a range specific for that date/time value.</li> </ul> <p>Format conversion to HDF-EOS is automatically performed for all ancillary products identified as requiring conversion. The data and metadata are inserted into the appropriate Data Server. Request state (active, file transferred, data insertion complete, etc.) is updated in the checkpointed request information.</p>	
270	DAAC Ingest/Distribution Technician: Periodically reviews the MSS Event Log to visually determine anomalous conditions (e.g., a pattern of metadata check errors).	
280	Expected Result: The system automatically logs events by means of the MSS Event Logging capability. Entries recorded in this log include detection of out-of-range metadata values, incompletely-transferred data files, etc.	
281	DAAC Ingest/Distribution Technician: Accesses the "Ingest Status Monitoring GUI Screen" to view the status of ongoing ingest processing. The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	

282	Expected Result: The “Ingest Status Monitoring GUI Screen” displays the necessary information concerning the status of ongoing ingest processing.	
290	DAAC Ingest/Distribution Technician: Observes the removal of the completed ingest request from the Status Monitor display.	
300	Expected Result: The systems sends status to TSDIS by means of electronic mail.	
310	TSDIS: Sends a DDA to the GSFC DAAC indicating receipt of the DDN.	
320	Expected Result: The GSFC DAAC receives a DDA from TSDIS. Upon receipt of the DDA, the system deletes the ongoing ingest request information. Summary information is retained in the Sybase data base (as Ingest History Log data).	
330	DAAC Ingest/Distribution Technician: Views summary information concerning the completed ingest requests via the GUI Ingest History Log tool.	
340	Expected Result: The system provides access to the Ingest History Log which contains summary information on the following: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
350	DAAC Ingest/Distribution Technician: Accesses the Ingest Summary Report GUI Screen and selects both the “Ingest Data Summary Report” and “Ingest Error Report” options. Generates and reviews both copies of the summary reports.	
360	Expected Result: The system generates the summary reports detailing the completed ingest requests, including completion status, data volume ingested, etc.	
370	DAAC Ingest/Distribution Technician: Invokes the DSS System Management Tool and accesses the Storage Management screen. Examines the progress of a particular insert request on the screen by selecting the “Log and Reports (MSS)” option from the screen.	
380	Expected Result: The DSS System Management Tool is accessed and the Storage Management screen is displayed. The “Log and Reports (MSS)” option is selected and the log files are displayed on the screen.	
390	DAAC Ingest/Distribution Technician: Receives a data insert request validation message on the screen.	
400	Expected Result: The Processing subsystem sends a Data Insert Request to the Science Data Server. Receipt of the request is logged and a request identifier is associated with the Data Insert Request.	
410	DAAC Ingest/Distribution Technician: Continues to receive and review status concerning the data insert requests. Accesses the Data Server System Management screen and selects the “Requests” option.	

420	Expected Result: The queued Data Insert Request is reached and processing begins. Associated data granules and metadata are transferred from the Processing Subsystem to the Data Server working storage. Data transfer status (including recoverable errors) are indicated in the event log (via MSS Logging Services). The metadata update file(s) produced by the associated data product PGEs are validated for completeness and correctness. Validation success or failure is logged (via MSS Logging Services) with the associated Data Insert Request Identifier and the appropriate status message is returned to the Processing Subsystem.	
430	DAAC Ingest/Distribution Technician: Accesses the Archive Activity screen and selects the “Archive Activity Log” option to view information concerning the archive activities of the data insert request.	
440	Expected Result: The Archive Activity Log displays each data product being stored and storage status of each storage operation.	
441	DAAC Ingest/Distribution Technician: Accesses the Archive Activity Log screen, selects the sort option of “Time & Date”. Views the following information on the screen: Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	
442	Expected Result: The Archive Activity Log screen displays information pertaining to the data granules contained within the Data Storage Request.	
450	DAAC Ingest/Distribution Technician: Accesses the Inventory Update Log screen and selects the “Time & Date”, “Requester”, “Request ID”, “Volume” and “UR” options to generate a report concerning the contents of the inventory.	
460	Expected Result: The Inventory Update Log screen is accessed and displays the following fields “Time & Date”, “Request ID”, “Requester Name”, “Volume Name”, “UR”, and “Checksum”. A checksum value is calculated for each data object associated with each granule. The checksum value, storage status, and other selected metadata is forwarded to the Science Data Server in a status message upon completion of the Data Storage Request.	
470	DAAC Ingest/Distribution Technician: Continues to examine the progress of the data insert request by selecting the “Log and Reports (MSS)” option from the Storage Management screen.	
480	Expected Result: Science Data Server receives and logs the Data Storage Request status message from Storage Management. The additional metadata items are validated. The PGE produced metadata update file and the storage management provided metadata are loaded into the metadata database. The status of the metadata load is entered in the event log (via MSS Logging Services).	
490	DAAC Ingest/Distribution Technician, DAAC Archive Manager, and TSDIS: Receive notice concerning the status of the data insert request(s).	
500	Expected Result: The Science Data Server logs completion of the Data Insert Request in the event log and reports completion of the Data Insert Request to the DAAC Archive Manager, DAAC Ingest/Distribution Technician, and TSDIS.	

510	DAAC Ingest/Distribution Technician: Reviews the progress on subscription processing by accessing the Science Data Server Main Window Screen and selecting the “Subscriptions” option to view subscription submitted for the data.	
520	Expected Result: The Science Data Server examines the event list for all subscriptions for that event. Subscription notifications are sent to the appropriate entities.	
530	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the newly inserted data products.	
540	Expected Result: The queried TSDIS data products are located in the GSFC ECS DAAC inventory and displayed on the screen.	
550	DAAC Ingest/Distribution Technician: Accesses the Search and Order Tool to do a query for the TSDIS VIRS, PR, TMI, and GV data.	
560	Expected Result: The TSDIS VIRS, PR, TMI, and GV data is located in the inventory as a single entity of logically grouped sets of data.	
570	DAAC Ingest/Distribution Technician: Logs off of the system.	
580	Expected Result: Log off procedures are completed.	

**Data Reduction and Analysis Steps:**

1. Review Ingest History Log for the following information:
  - Request ID
  - Priority
  - Data Provider
  - Start Time
  - End Time
  - Completion Status
  - Restart Flag
  - Pre-Processing Time
  - Transfer Time
  - Archive Time
  - Number of Files
  - Number of Granules
  - Number of Successful Granules
  - Data Volume
  - Ingest Type
2. Review MSS Event Log
3. Review “Ingest Data Summary Report”

**Data Reduction and Analysis Steps cont:**

4. Review “Ingest Error Summary” Report for the following entries:
  - Error Type
  - Error Count
5. Review Validation Reports for the following information extracted from the metadata:
  - a. Metadata parameters stored in a dataset specific format
  - b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range
  - c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set
  - d. That the metadata parameter syntax is correct
  - e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)
  - f. That date/time values include a valid month, day of month, hour, minute, and second
  - g. That date/time values include a year within a range specific for that date/time value
6. Review “Inventory Update Log” for the following entries:
  - Time and Date
  - Request ID
  - Requester Name
  - Volume Name
  - UR
  - Checksum
7. Review “Archive Activity Log” for the following entries:
  - Time and Date
  - Request ID
  - Client ID
  - Operation
  - Filename
  - Archive Name
  - Volume Name

**Signature:****Date:**



### 9.2.3.2 Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS

<b>TEST Procedure No.:</b> A090240.020\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS		
<b>Objective:</b> The purpose of this test is to verify the ability of the GSFC DAAC to receive VIRS, PR, TMI, and GV documentation via TSDIS. This procedure verifies that TSDIS notifies the GSFC ECS DAAC of the availability of the documentation. Verification is made to ensure that all of the TSDIS data is ingested, accounted for, validated, and archived.  <b>NOTE: For the purpose of testing the documentation interface between the GSFC ECS DAAC and the GSFC V0 DAAC, this test will ingest all of the TSDIS documentation sets listed in the “Test Inputs” section. The document sets for VIRS, PR, TMI, and GV, listed in the test inputs section, will be ingested and verified during this test since they are mentioned in requirements TRMM3040#A and TRMM4040#A.</b>		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0250#A	This requirement is verified through test. Each DADS shall receive, at a minimum, data in the following forms: <ul style="list-style-type: none"> <li>a. Physical electronic media</li> <li>b. Electronic communications networks</li> <li>c. Hardcopy media</li> </ul> The INGST CI must provide the capability to electronically transfer data to be ingested into a specific GSFC ECS DAAC location. This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC. According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.	
DADS0310#A	This requirement is verified through test. Each DADS shall verify that data came from an approved/authorized source. The INGST CI must verify that the external data provider is an authorized provider of data to be ingested at the GSFC DAAC.	
DADS0440#A	This requirement is verified through test. Each DADS shall provide storage, at a minimum, for the following EOS data: <ul style="list-style-type: none"> <li>a. Standard Products</li> <li>b. Associated correlative data sets</li> <li>c. Associated ancillary data sets</li> <li>d. Associated calibration data sets</li> <li>e. Associated metadata</li> <li>f. Documents</li> <li>g. Algorithms</li> <li>h. Format descriptions (e.g., HDF spec.)</li> </ul> The GSFC DAAC must provide storage for EOS data. The SDSRV CI must interface with the STMGIT CI to provide storage for standard products; associated correlative, calibration and ancillary data sets;	

	<p>associated metadata; documents; algorithms; and format descriptions. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letters (a thru e, and h). Sub-letters (a thru e, and h) are covered in test procedures #A090240.010\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS, #A090270.010 - Ingest, Validate, and Archive NOAA ADC Ancillary Data, and #A090430.010\$G - Reprocessed Data Receipt at the GSFC DAAC from TSDIS.</p>
DADS0475#A	<p>This requirement is verified through test.</p> <p>The DADS shall provide storage for the following TRMM data:</p> <ol style="list-style-type: none"> <li>L1A-L4 equivalent data products</li> <li>Associated correlative data sets</li> <li>Associated ancillary data sets</li> <li>Associated calibration data sets</li> <li>Associated metadata</li> <li>Documents</li> <li>Algorithms</li> </ol> <p>The GSFC DAAC must provide storage for the following TRMM data: L1A-L4 equivalent data products; associated correlative, ancillary, and calibration data sets; associated metadata; documents; and algorithms. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letters (a thru e, and g). Sub-letters (a thru e, and h) are covered in test procedures #A090240.010\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS, #A090270.010 - Ingest, Validate, and Archive NOAA ADC Ancillary Data, and #A090430.010\$G - Reprocessed Data Receipt at the GSFC DAAC from TSDIS.</p>
DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of data. The INGST CI must return data check status to the provider of the data. The SDSRV CI must send storage status to the INGST CI indicating the completion of the archive process. The DAAC Ingest/Distribution Technician must have the capability to view the status of ongoing ingest requests including the following information: external data provider, ingest request identifier, total ingest data volume, and request state.</p>
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> </ul>

	<ul style="list-style-type: none"> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS1100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.</p> <p>The GSFC DAAC operations staff (i.e., DAAC Ingest/Distribution Technician) must be able to select and extract Inventory Logs for selected time periods. The STMGT CI must record each archived data item in the Inventory Update Log.</p>
DADS1380#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.</p> <p>The INGST CI must report status on the performance of ingest requests to the MSS with the following: file transfer duration, file processing duration, and data insert duration.</p>
DADS1390#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between elements of the ECS and the DADS.</p> <p>The INGST CI must provide authorized operations staff the capability to view the status of ongoing ingest processing. The DAAC Ingest/Distribution must have the capability to view the following information: External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.</p>
DADS1800#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain data storage inventories defining the physical location of files.</p> <p>The STMGT CI must be capable of tracking the physical location of each data granule via use of the File Directory. The DAAC Ingest/Distribution Technician performs a search of the File Directory for the TRMM VIRS, PR, TMI, and GV data products.</p>
IMS-0300#A	<p>This requirement is verified through inspection.</p> <p>The IMS shall maintain a log of all information update activity.</p> <p>The ADSRV CI must maintain a log of all information read, write, update, and delete activity. The DAAC Ingest/Distribution Technician reviews the Event Log to verify that all information update activity has been recorded.</p>
IMS-0490#A	<p>This requirement is verified through demonstration.</p> <p>The IMS shall provide the capability to ingest documentation in a number of digital text formats, at a minimum, the following:</p> <ol style="list-style-type: none"> <li>a. ASCII text</li> <li>b. Microsoft WORD</li> <li>c. HTML</li> </ol>

	<p>d. Interleaf</p> <p>e. Postscript</p> <p>f. WordPerfect</p> <p>The DDSRV CI must provide the capability to ingest documentation in ASCII, HTML, and Postscript format.</p> <p>This test procedure does not cover sub-letters (b, d, and f).</p>
TRMM3040#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the MSFC DAAC shall ingest algorithms and documentation for PR and TMI from TSDIS.</p> <p>The GSFC ECS DAAC must ingest science software for PR and TMI from TSDIS. The DAAC Ingest/Distribution Technician verifies that the PR and TMI science software data are recorded in the Ingest History Log.</p> <p>This test procedure does not cover reference to “algorithms”. Reference to “algorithms” is covered in test procedures #A090240.010\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS and #A090430.010\$G - Reprocessed Data Receipt at the GSFC DAAC from TSDIS.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3080#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide a schedule of TRMM product delivery to the ECS systems at the MSFC DAAC.</p> <p>The GSFC ECS DAAC must receive a schedule electronically from TSDIS of TRMM product delivery. The DAAC Ingest/Distribution Technician verifies that TSDIS sends a data availability schedule electronically indicating the availability of the TRMM TSDIS data for ingest.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM4040#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the GSFC DAAC shall ingest TSDIS algorithms and documentation for VIRS.</p> <p>The GSFC ECS DAAC must ingest TSDIS science software and documentation for VIRS. The DAAC Ingest/Distribution Technician verifies that the VIRS science software and documentation is recorded in the Ingest History Log.</p> <p>This test procedure does not cover reference to “algorithms”. Reference to “algorithms” is covered in test procedures #A090240.010\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS and #A090430.010\$G - Reprocessed Data Receipt at the GSFC DAAC from TSDIS.</p>
TRMM4070#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide a schedule of TRMM product delivery to the ECS systems at the GSFC DAAC.</p> <p>The GSFC ECS DAAC must receive a schedule electronically of TRMM product delivery from TSDIS. The DAAC Ingest/Distribution Technician verifies that TSDIS electronically sends a data availability notice indicating the availability of the TRMM data ingest for archive.</p>
TRMM5030#A	<p>This requirement is verified through test.</p> <p>ECS shall have the capability to ingest directory and guide information from TSDIS.</p> <p>The GSFC DAAC must be able to ingest directory and guide information from TSDIS. The INGST CI must accept Network Ingest Requests to request automated electronic network ingest of a collection of data.</p>
TRMM5040#A	<p>This requirement is verified through test.</p> <p>ECS shall have the capability to archive and distribute standard TRMM</p>

	<p>data files and products (including VIRS, PR, and TMI data, metadata, GV data, algorithms and documentation) as provided and produced by TSDIS and the TRMM Science Team.</p> <p>The GSFC DAAC must be able to archive and distribute standard TRMM data files and products as provided and produced by TSDIS and the TRMM Science Team. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated, the TRMM data archived, and a storage notice sent to the provider of the ingest data.</p> <p>This test procedure does not cover “distribute standard TRMM data files and products” or any references to “algorithms”. Reference to “distribute standard TRMM data files and products” is covered in the End-To-End Scenario Group. Reference to “algorithms” is covered in test procedures #A090240.010\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS and #A090430.010\$G - Reprocessed Data Receipt at the GSFC DAAC from TSDIS.</p>			
TRMM5060#A	<p>This requirement is verified through demonstration.</p> <p>ECS shall provide standard information management functions for browse, and order of data and products provided by TSDIS and order of data and products provided by TSDIS and delivered to the MSFC and GSFC DAACs (including VIRS, PR and TMI data, metadata, GV data, TRMM Science Team algorithms and documentation).</p> <p>The Advertising directory at the GSFC DAAC must provide and maintain information that described TSDIS data products archived at the site. The DAAC Ingest/Distribution Technician queries the directory for data products ingested from TSDIS.</p> <p>This test procedure does not cover reference to “data, metadata, GV data and algorithms”. Reference to “data, metadata, GV data, and algorithms” is covered in test procedures #A090240.010\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS and #A090430.010\$G - Reprocessed Data Receipt at the GSFC DAAC from TSDIS.</p>			
Test Inputs: Data Availability Schedules				
Data Set Name	Data Set ID	File Name	Description	Version
VIRS_DOC_001	TBD	TBD	VIRS documentation	TBD
PR_DOC_001	TBD	TBD	PR documentation	TBD
TMI_DOC_001	TBD	TBD	TMI documentation	TBD
GV_DOC_001	TBD	TBD	GV documentation	TBD
TMI/GV_DOC_001	TBD	TBD	TMI/GV documentation	TBD

<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	Tester: Sets up TSDIS simulator for transfer of VIRS, PR, TMI, and GV documentation.	
40	Expected Result: TSDIS simulator is ready for transfer of the VIRS, PR, TMI, and GV documentation.	
50	TSDIS Simulator: Kftps files containing the TSDIS documentation into a configured ECS directory.	
60	Expected Result: The documentation files are kftp'd into the configured ECS directory.	
70	TSDIS Simulator: Notifies the GSFC ECS DAAC of the availability of these files, including the metadata, by submitting an HTML form at the appropriate ECS WWW page.	
80	Expected Result: The DAAC Ingest/Distribution Technician receives notification that the TSDIS documentation files are available.	
90	GSFC ECS DAAC: Receives and processes the HTML form and ingests the documentation files.	
100	Expected Result: The HTML form is processed and the documentation files are ingested by the system.	
110	DAAC Ingest/Distribution Technician: Periodically reviews the Ingest Status Monitor display. Looks for ingest requests that have been queued for an unexpected period.	
120	Expected Result: The Ingest Status Monitor displays all on-going ingest requests.	
130	DAAC Ingest/Distribution Technician: Periodically reviews the MSS Event Log to visually determine anomalous conditions (i.e., a pattern of metadata check errors).	
140	Expected Result: The system automatically logs events by means of the MSS Event Logging capability. Entries recorded in this log include detection of out-of-range metadata values, incompletely-transferred data files, etc.	
141	DAAC Ingest/Distribution Technician: Accesses the "Ingest Status Monitoring GUI Screen" to view the status of ongoing ingest processing. The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	
142	Expected Result: The "Ingest Status Monitoring GUI Screen" displays the necessary information concerning the status of ongoing ingest processing.	
150	DAAC Ingest/Distribution Technician: Observes the removal of the completed ingest request from the Status Monitor display.	
160	Expected Result: The system sends status to TSDIS by means of electronic mail.	

170	TSDIS Simulator: Sends a DDA to the GSFC DAAC indicating receipt of the DDN.	
180	Expected Result: The GSFC ECS DAAC receives a DDA from TSDIS. Upon receipt of the DDA, the system deletes the ongoing ingest request information. Summary information is retained in the Sybase data base (as Ingest History Log data).	
190	DAAC Ingest/Distribution Technician: Views summary information concerning the completed ingest requests via the GUI Ingest History Log tool.	
200	Expected Result: The system provides access to the Ingest History Log which contains summary information on the following: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
210	DAAC Ingest/Distribution Technician: Accesses the Ingest Summary Report GUI Screen and selects both the “Ingest Data Summary Report” and “Ingest Error Report” options. Generates and reviews both copies of the summary reports. <b>See Data Reduction and Analysis section.</b>	
220	Expected Result: The system generates the summary reports detailing the completed ingest requests, including completion status, data volume ingested, etc.	
230	DAAC Ingest/Distribution Technician: Invokes the DSS System Management Tool and accesses the Storage Management screen. Examines the progress of a particular ingest request on the screen by selecting the “Log and Reports (MSS)” option from the screen.	
240	Expected Result: The DSS System Management Tool is accessed and the Storage Management screen is displayed. The “Log and Reports (MSS)” Option is selected and the log files are displayed on the screen.	
250	DAAC Ingest/Distribution Technician: Receives a data insert request validation message on the screen.	
260	Expected Result: The Processing subsystem sends a Data Insert Request to the Science Data Server. Receipt of the request is logged and a request identifier is associated with the Data Insert Request.	
270	DAAC Ingest/Distribution Technician: Continues to receive and review status concerning the data insert requests. Accesses the Data Server System Management screen and selects the “Requests” option.	
280	Expected Result: The queued Data Insert Request is reached and processing begins.	
290	DAAC Ingest/Distribution Technician: Accesses the Archive Activity screen and selects the “Archive Activity Log” option to view information concerning the archive activities of the data insert request.	
300	Expected Result: The Archive Activity Log displays each document being stored and storage status of each storage operation.	

301	DAAC Ingest/Distribution Technician: Accesses the Archive Activity Log screen, selects the sort option of “Time & Date”. Views the following information on the screen: Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	
302	Expected Result: The Archive Activity Log screen displays information pertaining to the data granules contained within the Data Storage Request.	
310	DAAC Ingest/Distribution Technician: Accesses the Inventory Update Log screen and selects the “Time & Date”, “Requester”, “Request ID”, “Volume” and “UR” options to generate a report concerning the contents of the inventory.	
320	Expected Result: The Inventory Update Log screen is accessed and displays the following fields “Time & Date”, Request ID”, “Requester Name”, “Volume Name”, “UR”, and “Checksum”. A checksum value is calculated for each data object associated with each granule. The checksum value, storage status, and other selected metadata is forwarded to the Science Data Server in a status message upon completion of the Data Storage Request.	
330	DAAC Ingest/Distribution Technician: Continues to examine the progress of the data insert request by selecting the “Log and Reports (MSS)” option from the Storage Management screen.	
340	Expected Result: Science Data Server receives and logs the Data Storage Request status message from Storage Management.	
350	DAAC Ingest/Distribution Technician, DAAC Archive Manager, and TSDIS: Receive notice concerning the status of the data insert request(s).	
360	Expected Result: The Science Data Server logs completion of the Data Insert Request in the event log and reports completion of the Data Insert Request to the DAAC Archive Manager, DAAC Ingest/Distribution Technician, and TSDIS.	
370	DAAC Ingest/Distribution Technician: Reviews the progress on subscription processing by accessing the Science Data Server Main Window Screen and selecting the “Subscriptions” option to view subscription submitted for the data.	
380	Expected Result: The Science Data Server examines the event list for all subscriptions for that event. Subscription notifications are sent to the appropriate entities.	
390	GSFC ECS DAAC: The Science Data Server sends an Advertisement Update Message to the Advertisement Server to advertise the new data.	
400	Expected Result: The Advertisement Server is updated with the new TSDIS documentation.	
410	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the TSDIS documentation in ASCII text.	
420	Expected Result: The GSFC ECS DAAC inventory returns the ASCII text version of the TSDIS documentation.	
430	DAAC Ingest/Distribution Technician: Downloads the TSDIS documentation in the ASCII text format.	
440	Expected Result: The system is able to read and convert the TSDIS documentation in the ASCII text format.	



450	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the TSDIS documentation in HTML text format.	
460	Expected Result: The GSFC ECS DAAC inventory returns the HTML text version of the TSDIS documentation.	
470	DAAC Ingest/Distribution Technician: Downloads the TSDIS documentation in the HTML text format.	
480	Expected Result: The system is able to read and convert the TSDIS documentation in the HTML text format.	
490	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the TSDIS documentation in HTML text format.	
500	Expected Result: The GSFC ECS DAAC inventory returns the postscript text version of the TSDIS documentation.	
510	DAAC Ingest/Distribution Technician: Downloads the TSDIS documentation in the postscript text format.	
520	Expected Result: The system is able to read and convert the TSDIS documentation in the postscript text format.	
530	DAAC Ingest/Distribution Technician: Logs off of the system.	
540	Expected Result: Log off procedures are completed.	

**Data Reduction and Analysis Steps:**

1. Review the “Ingest History Log” for the following information:
  - Request ID
  - Priority
  - Data Provider
  - Start Time
  - End Time
  - Completion Status
  - Restart Flag
  - Pre-Processing Time
  - Transfer Time
  - Archive Time
  - Number of Files
  - Number of Granules
  - Number of Successful Granules
  - Data Volume
  - Ingest Type
2. Review the “MSS Event Log”
3. Review the “Ingest Data Summary Report”
4. Review the “Ingest Error Summary Report” for the following entries:
  - Error Type
  - Error Count
5. Review the “Inventory Update Log” for the following entries:
  - Time and Date
  - Request ID
  - Requester Name
  - Volume Name
  - UR
  - Checksum
6. Review the “Archive Activity Log” for the following entries:
  - Time and Date
  - Request ID
  - Client ID
  - Operation
  - Filename
  - Archive Name
  - Volume Name

**Signature:****Date:**

### 9.2.3.3 Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault)

<b>TEST Procedure No.:</b> A090240.030\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault)		
<p><b>Objective:</b> The purpose of this test is to verify the ability of the GSFC DAAC to detect and correct errors that occur during the ingest, validate, and archive VIRS, PR, TMI, and GV Data from TSDIS. The following error conditions are covered in this test procedure: exceed maximum number of sessions, insufficient disk space, ftp failure alert, missing required metadata and files, metadata validation failures, and storage failure.</p> <p><b>NOTE:</b> For the purpose of testing the interface between the GSFC ECS DAAC and the TSDIS, this test will ingest one (1) of each of the following TSDIS data sets: VIRS, PR, TMI, and GV listed in the “Test Inputs” section. One data set each for VIRS, PR, TMI, and GV, listed in the test inputs section, will be ingested and verified during this test since they are mentioned in requirements TRMM3010#A, TRMM3030#A, TRMM3040#A, TRMM3050#A, TRMM3070#A, TRMM4010#A, TRMM4030#A, and TRMM4040#A.</p>		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0250#A	<p>This requirement is verified through test.</p> <p>Each DADS shall receive, at a minimum, data in the following forms:</p> <ol style="list-style-type: none"> <li>Physical electronic media</li> <li>Electronic communications networks</li> <li>Hardcopy media</li> </ol> <p>The INGST CI must provide the capability to electronically transfer data to be ingested into a specific GSFC ECS DAAC location.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC.</p> <p>According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.</p>	
DADS0290#A	<p>This requirement is verified through test.</p> <p>Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size.</p> <p>The INGST CI must check selected parameters from extracted metadata to verify:</p> <ol style="list-style-type: none"> <li>Metadata parameters stored in a dataset specific format</li> <li>For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set</li> <li>That the metadata parameter syntax is correct</li> <li>For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>That date/time values include a valid month, day of month, hour,</li> </ol>	

	<p>minute, and second</p> <p>g. That date/time values include a year within a range specific for that date/time value.</p>
DADS0300#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.</p> <p>The GSFC DAAC must generate status indicating the success or failure of metadata and data consistency checks. The DAAC Ingest/Distribution Technician verifies that the History Log or Error Log, whichever is appropriate, is updated with the results of the data consistency checks.</p>
DADS0310#A	<p>This requirement is verified through test.</p> <p>Each DADS shall verify that data came from an approved/authorized source.</p> <p>The INGST CI must verify that the external data provider is an authorized provider of data to be ingested at the GSFC DAAC.</p>
DADS0350#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate the following metadata items, at a minimum:</p> <ul style="list-style-type: none"> <li>a. Unique Granule Id for L0</li> <li>b. Date and time of storage</li> <li>c. Physical location</li> <li>d. Data check status</li> <li>e. Unique format identifiers</li> </ul> <p>The STMGT CI must store the following metadata: granule id, date and time of storage, data check status and data format type. The DAAC Ingest/Distribution verifies that the metadata items have been generated by querying the inventory database.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in sequence # 9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures (411/VE1).</p>
DADS0370#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the IMS with metadata on newly stored data granules.</p> <p>The GSFC DAAC must update directories with metadata on the newly stored data granules.</p>
DADS0440#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide storage, at a minimum, for the following EOS data:</p> <ul style="list-style-type: none"> <li>a. Standard Products</li> <li>b. Associated correlative data sets</li> <li>c. Associated ancillary data sets</li> <li>d. Associated calibration data sets</li> <li>e. Associated metadata</li> <li>f. Documents</li> <li>g. Algorithms</li> <li>h. Format descriptions (e.g., HDF spec.)</li> </ul> <p>The GSFC DAAC must provide storage for EOS data. The SDSRV CI must interface with the STMGT CI to provide storage for standard products; associated correlative, calibration and ancillary data sets; associated metadata; algorithms; and format descriptions. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p>

	<p>This test procedure does not cover sub-letter (f). Sub-letter (f) is covered in test procedures #A090210.040\$G - Ingest, Validate, and Archive Migration Version 0 Documentation from the V0 DAAC and #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
DADS0475#A	<p>This requirement is verified through test.</p> <p>The DADS shall provide storage for the following TRMM data:</p> <ul style="list-style-type: none"> <li>a. L1A-L4 equivalent data products</li> <li>b. Associated correlative data sets</li> <li>c. Associated ancillary data sets</li> <li>d. Associated calibration data sets</li> <li>e. Associated metadata</li> <li>f. Documents</li> <li>g. Algorithms</li> </ul> <p>The GSFC DAAC must provide storage for the following TRMM data: L1A-L4 equivalent data products; associated correlative, ancillary, and calibration data sets; associated metadata; and algorithms. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letter (f). Sub-letter (f) is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
DADS0490#A	<p>This requirement is verified through test.</p> <p>Each DADS shall archive Level 1B - Level 4 data products.</p> <p>The SDSRV CI must process Data Insert Requests for the TSDIS Level 1 and higher data products. The system must check the following fields on the Data Insert Request for correct data entries: request identifier, date of request, priority information, data type and original identifier. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p>
DADS0700#A	<p>This requirement is verified through test.</p> <p>Each DADS shall be capable of complying with data transfer cancellation or delay notifications.</p> <p>TSDIS must notify the GSFC ECS DAAC in the event anticipated TRMM data products are delayed. The GSFC ECS DAAC must be able to handle data transfer cancellations from TSDIS. The DAAC Ingest/Distribution Technician must review the Error Log to verify that the information concerning the data transfer cancellation has been recorded in the log.</p>
DADS0770#A	<p>This requirement is verified through test.</p> <p>The DADS shall reformat data sets in one of the approved standard formats including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format for TSDIS data products.</p>
DADS0800#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format for TSDIS products.</p>
DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of data.</p> <p>The INGST CI must return data check status to the provider of the data.</p> <p>The SDSRV CI must send storage status to the INGST CI indicating the completion of the archive process. The DAAC Ingest/Distribution</p>

	Technician must have the capability to view the status of ongoing ingest requests including the following information: external data provider, ingest request identifier, total ingest data volume, and request state.
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS1100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.</p> <p>The GSFC DAAC operations staff (i.e., DAAC Ingest/Distribution Technician) must be able to select and extract Inventory Logs for selected time periods. The STMGT CI must record each archived data item in the Inventory Update Log.</p> <p>This test procedure does not cover reference to “in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure”.</p>
DADS1380#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.</p> <p>The INGST CI must report status on the performance of ingest requests to the MSS with the following: file transfer duration, file processing duration, and data insert duration.</p>
DADS1390#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between elements of the ECS and the DADS.</p> <p>The INGST CI must provide authorized operations staff the capability to view the status of ongoing ingest processing. The DAAC</p>

	Ingest/Distribution must have the capability to view the following information: External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.
DADS1510#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall ensure that IMS acknowledges receipt of metadata on all products stored in the DADS.</p> <p>The SDSRV CI must return a completion status to the provider of data only after all data and associated metadata has been successfully stored.</p>
DADS1780#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall provide the capability to store as a single entity logically grouped sets of data.</p> <p>The STMGT CI must support the capability to logically group a set of granule ids such that the set can be referenced by a single identifier.</p>
DADS1795#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall update internal file directories with the unique Data set ID.</p> <p>The STMGT CI must maintain a unique data set id for each data item in its File Directory. The DAAC Ingest/Distribution Technician queries the File Directory database to verify that each TSDIS data item has a unique data set id.</p>
DADS1800#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain data storage inventories defining the physical location of files.</p> <p>The STMGT CI must be capable of tracking the physical location of each data granule via use of the File Directory. The DAAC Ingest/Distribution Technician performs a search of the File Directory for the TRMM VIRS, PR, TMI, and GV data products.</p>
DADS1805#A	<p>This requirement is verified through demonstration.</p> <p>The DADS shall provide an inventory system capable, at a minimum, of the following:</p> <ol style="list-style-type: none"> <li>Accepting the number of new inventory entries, one per granule, for the number of granules per day as specified in Appendix C</li> <li>Uniquely identifying each data granule</li> <li>Tracking the physical location of each data granule.</li> </ol> <p>The STMGT CI must maintain an Inventory Update Log. The following information is recorded in the log: time and date of update, unique data identifier, archive media name, source of data, storage device name and requester.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in the End-To-End Scenario Group.</p>
DADS2675#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain a log of all transmission problems, take internal corrective action, and notify SMC when network performance begins to impact distribution effort adversely.</p> <p>The DDIST CI must alert the operations staff (i.e., DAAC Ingest/Distribution Technician) when electronic transmission problems are encountered.</p> <p>This test procedure does not cover reference to “notify SMC when network performance begins to impact distribution effort adversely”.</p>

IMS-0300#A	<p>This requirement is verified through inspection.</p> <p>The IMS shall maintain a log of all information update activity.</p> <p>The ADSRV CI must maintain a log of all information read, write, update, and delete activity. The DAAC Ingest/Distribution Technician reviews the Event Log to verify that all information update activity has been recorded.</p>
IMS-0320#A	<p>This requirement is verified through inspection.</p> <p>Standard Product related metadata shall contain, at a minimum:</p> <ol style="list-style-type: none"> <li>Keywords and glossary from investigators</li> <li>Keywords, synonyms, and glossary for cross-product and cross-directory referencing</li> <li>Identifiers for locating products in the DADS archive by granule</li> <li>Documentation on algorithms, including version history, authors, written description of product, equations, and references</li> <li>Documentation on instrument(s) and spacecraft(s) including history of housekeeping and ancillary parameters, discipline characterization, calibration parameters, key individuals, and references</li> <li>Identifiers, algorithms, written descriptions, equations, authors, and references associated with static browse products and subsetted, subsampled, and summary data products</li> <li>Published papers, research results, significant results, and references by author and date</li> <li>Key organizations and personnel for all product-related DAACs, ADCs, and ODCs</li> <li>Granule-specific information as listed in Tables C-10 and C-11 in Appendix C</li> </ol> <p>The SDSRV CI Schema Information must include for each Data Type the Data Type Attributes for that Data Type and the Valid Values associated with each Data Type Attribute.</p> <p>This test procedure does not cover reference to sub-letter (h). Sub-letter (h) reference to “product-related DAACs” is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures (411/VE1). Sub-letter (h) reference to “ADCs” is covered in test procedure #A090270.010\$G - Ingest, Validate, and Archive NOAA ADC Ancillary Data. Sub-letter (h) reference to “ODCs” is not covered in Release A.</p>
IMS-0330#A	<p>This requirement is verified through demonstration.</p> <p>The metadata maintained by the IMS shall provide a cross reference that relates science data to the following at a minimum:</p> <ol style="list-style-type: none"> <li>Calibration data, navigation data, and instrument engineering data</li> <li>Processing algorithms used for data generation at the PGS</li> <li>Software used for data generation at the PGS</li> <li>Parameters used for data generation at the PGS</li> <li>Input data used for data generation at the PGS</li> <li>Data recipients</li> <li>The PGS at which the data was processed</li> <li>QA and validation data, reports, and algorithms</li> </ol> <p>The SDSRV CI must have the ability to store references to calibration data, instrument engineering data, production history data, and QA statistics as metadata for science data.</p> <p>This test procedure does not cover sub-letters (b thru e and g). Sub-letters (b thru e and g) are covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures (411/VE1).</p>



IMS-0340#A	<p>This requirement is verified through inspection.</p> <p>The metadata maintained by the IMS shall contained content-based summary information, including statistical summaries and granule features, for all ECS standard and special products.</p> <p>The SDSRV CI must support inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.</p>
SDPS0080#A	<p>This requirement is verified through test.</p> <p>The SDPS shall archive, manage, and quality check and account for all science data received from the EPDSs and ancillary data received from the EPDSs, the SCFs, the ADCs, other DAACs, PIs, and the other EOS science users.</p> <p>The GSFC DAAC must archive, manage, and quality check and account for all ancillary data received from other EOS science users.</p> <p>This test procedure does not cover reference to “ancillary data received from the SCFs, the ADCs, other DAACs, PIs”. Reference to “ancillary data received from the SCFs” is covered in sequence #9.3.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures (411/VE1). Reference to “ancillary data received from the ADCs” is covered in test procedure #A090270.010\$G - Ingest, Validate, and Archive NOAA ADC Ancillary Data.</p>
TRMM3010#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the MSFC DAAC shall ingest TRMM standard products (Level 1A - 3B) for PR and TMI from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM standard products (Level 1A - 3B) for PR and TMI from TSDIS. The DAAC Ingest/Distribution Technician verifies that the TRMM data is recorded in the Ingest History Log.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3030#A	<p>This requirement is verified through test.</p> <p>The ECS MSFC DAAC shall ingest TRMM browse products for PR and TMI from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM browse products for PR and TMI from TSDIS. The DAAC Ingest/Distribution Technician verifies that the TRMM data is recorded in the Ingest History Log.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3040#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the MSFC DAAC shall ingest algorithms and documentation for PR and TMI from TSDIS.</p> <p>The GSFC ECS DAAC must ingest science software for PR and TMI from TSDIS. The DAAC Ingest/Distribution Technician verifies that the PR and TMI science software data are recorded in the Ingest History Log.</p> <p>This test procedure does not cover reference to “documentation”. The reference to “documentation” is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3050#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the MSFC DAAC shall ingest TRMM Ground Validation (GV) data products and associated metadata from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM GV data products and associated metadata from TSDIS. The DAAC Ingest/Distribution Technician verifies that the GV data products and associated metadata are recorded in the Ingest History Log.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>

TRMM3060#A	<p>This requirement is verified through test.</p> <p>The PR, TMI, and GV data ingested by ECS shall be archived in the ECS systems at the MSFC DAAC.</p> <p>The GSFC ECS DAAC must archive the PR, TMI, and GV data ingested from TSDIS. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated, the data archived, and a data storage notice sent to TSDIS.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3070#A	<p>This requirement is verified through demonstration.</p> <p>The ECS systems at the MSFC DAAC shall ingest TRMM data files and data products, including metadata, daily.</p> <p>The GSFC ECS DAAC must ingest TRMM data files and data products, including metadata, daily. The DAAC Ingest/Distribution Technician verifies that a data availability notice is sent prior to ingest of the TRMM data.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM3080#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide a schedule of TRMM product delivery to the ECS systems at the MSFC DAAC.</p> <p>The GSFC ECS DAAC must receive a schedule electronically from TSDIS of TRMM product delivery. The DAAC Ingest/Distribution Technician verifies that TSDIS sends a data availability schedule electronically indicating the availability of the TRMM TSDIS data for ingest.</p> <p><b>NOTE: MSFC TRMM data to be ingested at the GSFC DAAC.</b></p>
TRMM4010#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the GSFC DAAC shall ingest TRMM standard products (Level 1A - 3B) for VIRS from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM standard products (Level 1A - 3B) for VIRS from TSDIS. The DAAC Ingest/Distribution Technician verifies that the TRMM standard products are recorded in the Ingest History Log.</p>
TRMM4030#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the GSFC DAAC shall ingest TRMM browse products for VIRS from TSDIS.</p> <p>The GSFC ECS DAAC must ingest TRMM browse products for VIRS from TSDIS. The DAAC Ingest/Distribution Technician verifies that the VIRS browse products are recorded in the Ingest History Log.</p>
TRMM4040#A	<p>This requirement is verified through test.</p> <p>The ECS systems at the GSFC DAAC shall ingest TSDIS algorithms and documentation for VIRS.</p> <p>The GSFC ECS DAAC must ingest TSDIS science software for VIRS. The DAAC Ingest/Distribution Technician verifies that the VIRS science software is recorded in the Ingest History Log.</p> <p>This test procedure does not cover reference to “documentation”. The reference to “documentation” is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
TRMM4050#A	<p>This requirement is verified through test.</p> <p>The VIRS data ingested from TSDIS by ECS shall be archived at the ECS systems at the GSFC DAAC.</p> <p>The GSFC ECS DAAC must archive VIRS data ingested from TSDIS. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated, the data archived, and storage notice is sent to TSDIS.</p>

TRMM4070#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide a schedule of TRMM product delivery to the ECS systems at the GSFC DAAC.</p> <p>The GSFC ECS DAAC must receive a schedule electronically of TRMM product delivery from TSDIS. The DAAC Ingest/Distribution Technician verifies that TSDIS electronically sends a data availability notice indicating the availability of the TRMM data ingest for archive.</p>
TRMM5010#A	<p>This requirement is verified through test.</p> <p>ECS shall ingest TRMM metadata, and browse from TSDIS along with the TRMM standard products in the ECS format.</p> <p>The GSFC DAAC must ingest TRMM metadata, and browse data from TSDIS along with TRMM standard products in the standard ECS format.</p>
TRMM5020#A	<p>This requirement is verified through demonstration.</p> <p>Availability of TRMM data products (PR, VIRS, TMI, and GV) shall be based on the TSDIS product schedule, and an electronic status mechanism shall be available for late products.</p> <p>The TSDIS must submit a product schedule based on the availability of TRMM data products. The DAAC Ingest/Distribution Technician verifies that a TSDIS product schedule is received indicating the availability of the TRMM data products. Verification is also made that status messages are sent indicating the delayed arrival of anticipated data products.</p>
TRMM5030#A	<p>This requirement is verified through test.</p> <p>ECS shall have the capability to ingest directory and guide information from TSDIS.</p> <p>The GSFC DAAC must be able to ingest directory and guide information from TSDIS. The INGEST CI must accept Network Ingest Requests to request automated electronic network ingest of a collection of data.</p>
TRMM5040#A	<p>This requirement is verified through test.</p> <p>ECS shall have the capability to archive and distribute standard TRMM data files and products (including VIRS, PR, and TMI data, metadata, GV data, algorithms and documentation) as provided and produced by TSDIS and the TRMM Science Team.</p> <p>The GSFC DAAC must be able to archive and distribute standard TRMM data files and products as provided and produced by TSDIS and the TRMM Science Team. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated, the TRMM data archived, and a storage notice sent to the provider of the ingest data.</p> <p>This test procedure does not cover “distribute standard TRMM data files and products” or any references to “documentation”. Reference to “distribute standard TRMM data files and products” is covered in sequence #12.2.2. Reference to “documentation” is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
TRMM5060#A	<p>This requirement is verified through demonstration.</p> <p>ECS shall provide standard information management functions for browse, and order of data and products provided by TSDIS and order of data and products provided by TSDIS and delivered to the MSFC and GSFC DAACs (including VIRS, PR and TMI data, metadata, GV data, TRMM Science Team algorithms and documentation).</p> <p>The Advertising directory at the GSFC DAAC must provide and maintain information that described TSDIS data products archived at the site. The DAAC Ingest/Distribution Technician queries the directory for data products ingested from TSDIS.</p> <p>This test procedure does not cover reference to “documentation”. Reference to “documentation” is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>

<b>Test Inputs: Data Availability Schedules</b>				
<b>Data Set Name</b>	<b>Data Set ID</b>	<b>File Name</b>	<b>Description</b>	<b>Version</b>
VIRS1A_001	TBD	TBD	CCSDS SFDU; 16 files/day; 656.5 Mb <b>(NOTE: 1 file needs to be missing required metadata.)</b>	TBD
VIRS1B_001	TBD	TBD	CCSDS SFDU; 16 files/day; 737.7 Mb	TBD
VIRSBROWSE_001	TBD	TBD	CCSDS SFDU; 1 file/day; 8.3 Mb	TBD
VIRSALGO_001	TBD	TBD	ASCII Text; every 6 months	TBD
PR1A_001	TBD	TBD	CCSDS SFDU; 16 files/day <b>(NOTE: 1 file needs to be missing required data files.)</b>	TBD
PR1B_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
PR1C_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
PR2A_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
PR3A_001	TBD	TBD	HDF/SDS; 1 file/month	TBD
PRBROWSE_001	TBD	TBD	HDF/SDS	TBD
PRALGO_001	TBD	TBD	ASCII Text	TBD
TMI1A_001	TBD	TBD	CCSDS SFDU; 16 files/day <b>(NOTE: 1 file needs to have an invalid "FILE_ID" entry in the PVL header.)</b>	TBD
TMI1B_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
TMI2A_001	TBD	TBD	HDF/SDS; 16 files/day	TBD
TMI3A_001	TBD	TBD	HDF/SDS; 1 file/month	TBD
TMIBROWSE_001	TBD	TBD	HDF/SDS	TBD
TMIALGO_001	TBD	TBD	ASCII Text	TBD
GV1B_001	TBD	TBD	HDF/SDS; 24 files/day	TBD
GV1C_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A52_001	TBD	TBD	HDF/SDS; 136 files/day	TBD

GV2A53_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A54_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A55_001	TBD	TBD	HDF/SDS; 136 files/day	TBD
GV2A56_001	TBD	TBD	HDF/SDS; 17 files/month	TBD
GV2A57_001	TBD	TBD	HDF/SDS; 17 files/month	TBD
GV3A53_001	TBD	TBD	HDF/SDS; 10 files/5 days	TBD
GV3A54_001	TBD	TBD	HDF/SDS; 10 files/month	TBD
GV3A55_001	TBD	TBD	HDF/SDS; 10 files/month	TBD
GVBROWSE_001	TBD	TBD	HDF/SDS	TBD
GVALGO_001	TBD	TBD	ASCII Text	TBD
TMI/GV2B_001	TBD	TBD	HDF/SDS	TBD
TMI/GV3B42_001	TBD	TBD	HDF/SDS	TBD
TMI/GV3B43_001	TBD	TBD	HDF/SDS	TBD
TMI/GVBROWSE_001	TBD	TBD	HDF/SDS	TBD
TMI/GVALGO_001	TBD	TBD	ASCII Text	TBD

Step-By-Step Procedures		
Step No.	Input Action / Expected Results	Pass / Fail / Comments
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	Tester: Sets up TSDIS simulator for transfer of VIRS, PR, TMI, and GV data.	
40	Expected Result: TSDIS simulator is ready for transfer of the VIRS, PR, TMI, and GV data.	
41	DAAC Ingest/Distribution Technician: Accesses the “Ingest Threshold Control GUI” screen to view the current set value for ingest sessions.	
42	Expected Result: The current set value for ingest sessions is displayed on the “Ingest Threshold Control GUI” screen.	
	<b>NOTE: The number of ingest sessions is a DAAC pre determined value. The tester needs to adjust the number to accommodate the number of ingest sessions that are needed to test this procedure. For example, if the number is set to “2”, then after a second DAN is ingested an attempt to start an ingest session will be denied.</b>	
50	TSDIS Simulator: Sends a DAN to the GSFC ECS DAAC requesting data ingest service. <b>NOTE: Receipt of this DAN will exceed the ingest session threshold value.</b>	
60	Expected Result: The GSFC ECS DAAC receives DAN from TSDIS.	
70	GSFC ECS DAAC: Establishes an Ingest Session and logs the new ingest session connection in the Event Log.	
80	Expected Result: The Ingest Session is established and the Event Log is updated with the new ingest session connection information.	
90	DAAC Ingest/Distribution Technician: Receives an “alert” message on the terminal screen indicating that the maximum number of sessions have already been established.	
100	Expected Result: GSFC ECS DAAC sends a DAA indicating that the system is full and an attempt should be retried again later.	
110	DAAC Ingest/Distribution Technician: Accesses the Ingest Threshold Control GUI Screen and clicks on the “Threshold” button to increase the session threshold value.	
120	Expected Result: The session threshold value is increased to accommodate the DAN sent by TSDIS.	
130	GSFC ECS DAAC: Records the start of DAN validation in the Event Log.	

140	Expected Result: The Event Log is updated with the DAN validation information. The GSFC ECS DAAC validates the DAN.	
150	GSFC ECS DAAC: Validates the DAN, logs receipt of valid DAN in the Event Log, and sends a DAA indicating valid DAN is received to TSDIS.	
160	Expected Result: TSDIS receives the DAA sent by the GSFC ECS DAAC and the valid DAN information is recorded in the Event Log.	
	<b>NOTE: Tester needs to verify and ensure that there is insufficient disk space allocated to ingest the higher level data from TSDIS.</b>	
170	GSFC ECS DAAC: Sets a time-out timer for the disk allocation request and requests disk space allocation from the Data Server.	
180	Expected Result: GSFC ECS DAAC notifies the DAAC Ingest/Distribution Technician that the Ingest request is waiting on Data Server disk allocation. The time-out timer has expired since the Data Server had insufficient disk space.	
190	DAAC Ingest/Distribution Technician: Receives notification that there is insufficient disk space on the Data Server. Accesses the Ingest Request Control GUI Screen.	
200	Expected Result: The Ingest Request Control GUI Screen is displayed on the DAAC Ingest/Distribution Technician's terminal screen.	
210	DAAC Ingest/Distribution Technician: Selects the "Control" button and cancels some (# to be determined during testing) of the pending ingest requests.	
220	Expected Result: The GSFC ECS DAAC cancels ingest requests that have been selected by the DAAC Ingest/Distribution Technician.	
230	GSFC ECS DAAC: Allocates disk space for the pending ingest of TSDIS data and cancels the disk allocation timer.	
240	Expected Result: Sufficient disk space is allocated and the start time/date of data transfer is recorded in the Event Log.	
250	GSFC ECS DAAC: Transfers the TSDIS data from external location to its own working storage area.	
260	Expected Result: The TSDIS data is transferred in the GSFC ECS DAAC working storage area.	
	<b>NOTE: The tester needs to ensure that a transmission error occurs during the "ftp" transfer of the data.</b>	
270	DAAC Ingest/Distribution Technician: Receives an "ftp failure alert" message on their screen. The error message indicates that an error has occurred in the transfer of the data.	
280	Expected Result: DAAC Ingest/Distribution Technician queries the Event Log to determine if other communications-related failures have occurred.	

290	DAAC Ingest/Distribution Technician: Notifies TSDIS that there is a problem in the transferring of the VIRS, PR, TMI, and GV data to the GSFC ECS DAAC.	
300	Expected Result: TSDIS receives the problem notification and researches the problem. Discovers the cause of the transfer error and re-sends the data to the GSFC ECS DAAC.	
310	TSDIS Simulator: Re-sends the VIRS, PR, TMI, and GV data to the GSFC ECS DAAC.	
320	Expected Result: The GSFC ECS DAAC receives the VIRS, PR, TMI, and GV data from TSDIS. The Event Log is updated with data transmission status.	
330	DAAC Ingest/Distribution Technician: Accesses the “Ingest Status Monitoring GUI Screen” to view the status of ongoing ingest processing. The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	
340	Expected Result: The Ingest Status Monitoring GUI Screen displays the necessary information concerning the status of ongoing ingest processing.	
	<b>NOTE: The following “bad” data has been ingested: VIRS1A (missing required metadata) and PR1A (missing required data files). This “bad” data will cause errors in the following data preprocessing steps.</b>	
350	GSFC ECS DAAC: Performs data preprocessing on the ingested TSDIS data. This preprocessing includes data conversion, reformatting, and/or metadata extraction.	
360	Expected Result: During preprocessing, the system discovers that there is missing required metadata and files.	
370	GSFC ECS DAAC: Logs the errors in the Event Log, sends a DDN indicating preprocessing errors to TSDIS, and alerts the DAAC Ingest/Distribution Technician.	
380	Expected Result: The Event Log is updated with the preprocessing errors, TSDIS receives a DDN, and the DAAC Ingest/Distribution Technician is alerted to the pending problem.	
390	TSDIS Simulator: Sends a DAN to the GSFC ECS DAAC requesting data ingest service.	
400	Expected Result: The GSFC ECS DAAC establishes an Ingest Session and logs the new ingest session connection in the Event Log.	
410	GSFC ECS DAAC: Validates the DAN, logs the valid DAN information in the Event Log, and sends a DAA indicating receipt of a valid DAN to TSDIS.	
420	Expected Result: The Event Log is updated with the valid DAN information and TSDIS receives a DAA.	
430	GSFC ECS DAAC: Sets a time-out timer for the disk allocation request and requests disk space allocation from the Data Server.	
440	Expected Result: Disk space is allocated and the disk allocation timer is canceled.	



450	GSFC ECS DAAC: Records the start date/time of data transfer in the Event Log and transfers the data from the external location to its working storage area.	
460	Expected Result: The Event Log is updated with the start date/time of data transfer and the TSDIS data is transferred into the working storage area of the GSFC ECS DAAC.	
470	GSFC ECS DAAC: Records data transmission status and start time/date of the data preprocessing activities in the Event Log.	
480	Expected Result: The Event Log is updated with data transmission status and data preprocessing start time/date.	
490	GSFC ECS DAAC: Performs data preprocessing that includes data conversion, reformatting, and/or metadata extraction.	
500	Expected Result: The Event Log is updated with preprocessing successful information.	
510	GSFC ECS DAAC: Retrieves the data server name from the Advertising Service.	
520	Expected Result: The Event Log is updated with “inserting data” message.	
530	GSFC ECS DAAC: Generates a data insert request to store the VIRS, PR, TMI, and GV data and metadata into the appropriate data server.	
540	Expected Result: The Event Log is updated with “successful ingest completion status”.	
550	GSFC ECS DAAC: Sends a DDN indicating successful completion status to TSDIS.	
560	Expected Result: TSDIS receives a DDN from the GSFC ECS DAAC.	
570	TSDIS: Sends a DDA to the GSFC ECS DAAC.	
580	Expected Result: The GSFC ECS DAAC receives a DDA from TSDIS. Records “cleaning up request” in the Event Log.	
590	GSFC ECS DAAC: Performs appropriate request cleanup activities.	
600	Expected Result: The request cleanup activities are completed.	
610	DAAC Ingest/Distribution Technician: Accesses the Ingest History Log GUI Screen and selects the “History” option to review information concerning the completed request.	
620	Expected Result: The request history is displayed on the screen.	
630	DAAC Ingest/Distribution Technician: Reviews the Ingest History Log for full and complete information concerning the status/error history of the request.	
640	Expected Result: Ingest History Log contains information concerning the status/error history of the request. <b>See Data Reduction and Analysis section.</b>	
650	GSFC ECS DAAC: The Processing Subsystem sends a Data Insert Request to the Science Data Server.	
660	Expected Result: The Data Insert Request is logged, a request identifier is associated with the request, and the request is queued.	

670	DAAC Ingest/Distribution Technician: Accesses the Storage Management Screen. Clicks on the “Other Screens” option and selects the “Log and Reports (MSS)” option.	
680	Expected Result: The “Log and Reports (MSS)” screen is displayed.	
690	GSFC ECS DAAC: Begins processing the Data Insert Request. Transfers associated data granules and metadata from the Processing Subsystem to the Data Server working storage.	
700	Expected Result: The Data Insert Request is processed and data transfer status is recorded in the Event Log (via MSS Logging Services).	
710	DAAC Ingest/Distribution Technician: Accesses the Data Server System Management Screen. Clicks on the “Requests” option and selects the “Request Information” option.	
720	Expected Result: The “Request Information” screen displays the progress of the selected request.	
	<b>NOTE: The tester must ensure that the TMI1A ingested data file contains an invalid “FILE_ID” that causes a validation failure for the metadata update file(s).</b>	
730	GSFC ECS DAAC: Validates the metadata update file(s) produced by the associated data product PGEs for completeness and correctness.	
740	Expected Result: The metadata update file(s) fail the validation process.	
750	GSFC ECS DAAC: Logs a “validation failure results” status in the Event Log (via MSS Logging Services). Sends a rejection message to TSDIS.	
760	Expected Result: Event Log updated with “validation failure results” message and TSDIS receives a rejection message.	
770	GSFC ECS DAAC: Logs the rejection message in the Event Log and sends the message to the DAAC Archive Manager and the DAAC Ingest/Distribution Technician.	
780	Expected Result: The rejection message is recorded in the Event Log and the DAAC Archive Manager and DAAC Ingest/Distribution Technician receive rejection message.	
790	GSFC ECS DAAC: Sends the rejection message and the metadata update file(s) to QA for evaluation and correction. Closes the Data Insert Request and terminates the Data Insert session.	
800	Expected Result: QA receives and evaluates the metadata update file(s). The Data Insert session is terminated.	
810	<b>NOTE: QA corrects the metadata update files and a new data insert request is generated.</b>	
820	GSFC ECS DAAC: The Processing Subsystem sends a Data Insert Request to the Science Data Server.	
830	Expected Result: The Data Insert Request is logged, a request identifier is associated with the request, and the request is queued.	

840	DAAC Ingest/Distribution Technician: Accesses the Storage Management Screen. Clicks on the “Other Screens” option and selects the “Log and Reports (MSS)” option.	
850	Expected Result: The “Log and Reports (MSS)” screen is displayed.	
860	GSFC ECS DAAC: Begins processing the Data Insert Request. Transfers associated data granules and metadata from the Processing Subsystem to the Data Server working storage.	
870	Expected Result: The Data Insert Request is processed and data transfer status is recorded in the Event Log (via MSS Logging Services).	
880	DAAC Ingest/Distribution Technician: Accesses the Data Server System Management Screen. Clicks on the “Requests” option and selects the “Request Information” option.	
890	Expected Result: The “Request Information” screen displays the progress of the selected request.	
900	GSFC ECS DAAC: Validates the metadata update file(s) produced by the associated data product PGEs for completeness and correctness.	
910	Expected Result: The metadata is successfully validated and the Science Data Server sends a Data Storage Request to Storage Management.	
920	GSFC ECS DAAC: Stores the data granules in Working Storage associated with the Data Storage Request.	
930	Expected Result: Data granules are stored in working storage. The Archive Activity Log is updated with each data product being stored and storage status of each storage operation.	
940	DAAC Ingest/Distribution Technician: Accesses the Archive Activity Log screen, selects the sort option of “Time & Date”. Views the following information on the screen: Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	
950	Expected Result: The Archive Activity Log screen displays information pertaining to the data granules contained within the Data Storage Request.	
951	DAAC Ingest/Distribution Technician: Accesses the “Storage Management” screen and selects the “Threshold” option.	
952	Expected Result: The “Threshold” option is invoked and the storage threshold value is displayed.	
	<b>NOTE: The tester must ensure that the threshold value is going to be exceeded with the storage request for the TSDIS data.</b>	
960	GSFC ECS DAAC: Storage failure occurs. Logs error message in the Event Log (via MSS Logging Services).	
970	Expected Result: Event Log updated with error message and request status changes to “OPINT”.	
980	DAAC Ingest/Distribution Technician: Accesses the Storage Management screen, selects the “Other Screens” options, and clicks the “Log & Reports (MSS)” option.	

990	Expected Result: The Log and Reports (MSS) screen is displayed.	
1000	DAAC Ingest/Distribution Technician: Reviews the information displayed on the screen and takes the appropriate corrective action for the storage error problem.	
1010	Expected Result: Corrective action is taken to resolve the storage error problem.	
1020	DAAC Ingest/Distribution Technician: Accesses the DSS System Management Request Screen and selects the "Resume" option.	
1030	Expected Result: The Data Storage Request processing is resumed and storage of the data is successful.	
1040	GSFC ECS DAAC: Forwards the checksum value, storage status, and other selected metadata to the Science Data Server and TSDIS in a status message upon completion of the Data Storage Request.	
1050	Expected Result: TSDIS receives a storage successful message from the GSFC ECS DAAC.	
1060	GSFC ECS DAAC: Science Data Server receives and logs (via MSS Logging Services) the Data Storage Request status message from Storage Management. The additional metadata items are validated.	
1070	Expected Result: The Event Log is updated with the Data Storage Request status message.	
1080	DAAC Ingest/Distribution Technician: Accesses the Science Data Server screen, selects the "Other Screens" option, and clicks on "Science Data Server Component's Logs & Reports (MSS)" submenu to track progress and review any errors recorded.	
1090	Expected Result: The Science Data Server Component's Logs and Reports screen displays progress and any errors that have been recorded.	
	<b>Note: The tester needs to perform step(s) that cause a data storage failure. Steps are TBD.</b>	
1100	GSFC ECS DAAC: Validation failure results in an error message being logged in the Event Log (via MSS Logging Services), and request status changes to "OPINT".	
1110	Expected Result: Event Log is updated with the validation failure results and the DAAC Ingest/Distribution Technician is notified of the error.	
1120	DAAC Ingest/Distribution Technician: Researches and corrects the problem.	
1130	Expected Result: System is ready to continue with further activities.	
1140	DAAC Ingest/Distribution Technician: Accesses the Storage Management screen, selects the "Other Screens" option, and clicks on the "Log & Reports (MSS)" option.	
1150	Expected Result: The Log and Reports (MSS) screen displays information concerning the error.	
1160	DAAC Ingest/Distribution Technician: Accesses the DSS System Management Request Screen and selects the "Resume" option.	

1170	Expected Result: The Data Storage Request processing is resumed and storage of the data is successful.	
	<b>Note: The tester needs to perform step(s) that cause a metadata load failure. Steps are TBD.</b>	
1180	GSFC ECS DAAC: The PGE produced metadata update file and the storage management provided metadata are loaded into the metadata database. The status of the metadata load is entered in the Event Log.	
1190	Expected Result: The Event Log is updated with the status of the metadata load.	
1200	GSFC ECS DAAC: Load failure results in an error message being logged in the event log (via MSS Logging Services), and request status is changed to "OPINT".	
1210	Expected Result: DAAC Ingest/Distribution Technician is notified of the metadata load failure.	
1220	DAAC Ingest/Distribution Technician: Researches and corrects the problem.	
1230	Expected Result: System is ready to continue with further activities.	
1240	DAAC Ingest/Distribution Technician: Accesses the Storage Management screen, selects the "Other Screens" option, and clicks on the "Log & Reports (MSS)" option.	
1250	Expected Result: The Log and Reports (MSS) screen displays information concerning the error.	
1260	DAAC Ingest/Distribution Technician: Accesses the DSS System Management Request Screen and selects the "Resume" option.	
1270	Expected Result: The Data Storage Request processing is resumed and storage of the data is successful.	
1280	GSFC ECS DAAC: The Science Data Server logs (via MSS Logging Services) completion of the Data Insert Request in the event log and reports completion of the Data Insert Request to the operator console and to the insert Requestor.	
1290	Expected Result: The Event Log is updated with the completion status of the Data Insert Request.	
1300	DAAC Ingest/Distribution Technician: Accesses the Storage Management screen, selects the "Other Screens" option, and clicks on the "Log & Reports (MSS)" option.	
1310	Expected Result: The Log and Reports (MSS) screen displays information concerning the Data Insert Request.	
1320	GSFC ECS DAAC: The Science Data Server will then examine the event list for all subscriptions for that event.	
1330	Expected Result: Subscription notifications are sent to the appropriate entities as appropriate and distribution processing is initiated.	
1340	DAAC Ingest/Distribution Technician: Accesses the Science Data Server screen and selects the "Subscriptions" option to review/track the progress of subscriptions.	
1350	Expected Result: Pending subscriptions for the TSDIS data are displayed on the screen.	

1360	DAAC Ingest/Distribution Technician: Accesses the Search and Order Tool to do a query for the TSDIS data.	
1370	Expected Result: The TSDIS data is located in the inventory as a single entity of logically grouped sets of data.	
1380	DAAC Ingest/Distribution Technician: Logs off of the system.	
1390	Expected Result: Session is terminated.	

**Data Reduction and Analysis Steps:**

1. Review the “Ingest History Log” for the following information:
  - Request ID
  - Priority
  - Data Provider
  - Start Time
  - Completion Status
  - Restart Flag
  - Pre-Processing Time
  - Transfer Time
  - Archive Time
  - Number of Files
  - Number of Granules
  - Number of Successful Granules
  - Data Volume
  - Ingest Type
2. Review the “Event Log” for the following fault information:
  - exceeding maximum number of sessions
  - insufficient disk space
  - ftp failure alert
  - missing required metadata and files
  - metadata validation failures
  - storage failure
3. Review the “Event Log” to verify that the faults were corrected and the ingest, validation, and archive processes continued.
4. Generate the “Ingest Dataset Error Summary” Report and review for the following entries:
  - Data Provider
  - Data Type
  - Error Type
  - Error Count
5. Generate the “Ingest Error Summary” Report and review for the following entries:
  - Error Type
  - Error Count

**Data Reduction and Analysis Steps cont. :**

6. Review Validation Reports for the following information extracted from the metadata:
  - Metadata parameters stored in a dataset specific format
  - For numeric parameters limited by a range of values, that parameter values lie within the specified range
  - For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set
  - That the metadata parameter syntax is correct
  - For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)
  - That date/time values include a valid month, day of month, hour, minute, and second
  - That date/time values include a year within a range of specific for that date/time value
7. Review the “Inventory Update Log” for the following entries:
  - Time and Date
  - Request ID
  - Requester Name
  - Volume Name
  - UR
  - Checksum
8. Review the “Archive Activity Log” for the following entries:
  - Time and Date
  - Request ID
  - Client ID
  - Operation
  - Filename
  - Archive Name
  - Volume Name

**Signature:****Date:****9.2.4 Higher Level Processed Data Receipt from EPDS (Landsat-7) Sequence**

This sequence is not applicable to the ECS System Acceptance Test Procedures - Volume 2 GSFC Procedures document (DID 411/VE1).

**9.2.5 Higher Level Processed Data Receipt from the NOAA ADC to the LaRC DAAC Sequence**

This sequence is not applicable to the ECS System Acceptance Test Procedures - Volume 2 GSFC Procedures document (411/VE1).



### 9.2.6 Higher Level Processed Data Receipt from the NOAA ADC to the GSFC DAAC Sequence

The Higher Level Processed Data Receipt from the NOAA ADC to the GSFC DAAC Sequence verifies the ability of the ECS users of the NOAA data to store ancillary data which is used to support the TSDIS product generation as well as advertising information. The NOAA TSDIS ancillary data may include associated metadata, calibration data, and documents. This sequence of tests verifies that once the GSFC DAAC initiates a product availability query for the NOAA data, a product availability list is received from NOAA indicating the availability of the requested data. Verification is performed to ensure that all ancillary data requested and received to support TSDIS product generation is validated, accounted for, checked for EOSDIS compliance, and archived. The ability of the NOAA ADC users to receive status information concerning their ingested ancillary data is also verified.

**Configuration:** The subsystems needed to perform this sequence of tests are as follows: CSS/MSS, DPS, DSS, INS, ISS & PLS. Refer to Appendix D for additional detail.

**External Interfaces:** The external interfaces (i.e., other ECS sites and data sources) needed for a sequence (both real and simulated) are listed:

SMC

Larry Server -DAO

**Operator Position(s):** The operator positions from the ECS Maintenance and Operations Descriptions document (607/OP2) needed to support this sequence are listed:

DAAC Archive Manager

DAAC Ingest/Distribution Technician

DAAC Resource Planner

**Operational Scenario(s):** The operations scenarios, taken from the Operations Scenarios for the ECS Project: Release-A document (605/OP1), that were used to develop tests in this sequence of tests are listed:

Resource Planning Scenario (section 3.7.1)

TRMM Ancillary Data Ingest Scenario (section 3.9.3)

Data Insertion Scenario (nominal) (section 3.10.2)

#### **Test Dependencies:**

There are no test dependencies needed for this sequence of tests.

### 9.2.6.1 Ingest, Validate, and Archive NOAA ADC Ancillary Data

<b>TEST Procedure No.:</b> A090270.010\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Ingest, Validate, and Archive NOAA ADC Ancillary Data		
<b>Objective:</b> The purpose of this test is verify the ability of the GSFC DAAC to ingest ancillary data from the Larry Server-DAO that is used in the generation of TSDIS data products. The NCEP ancillary data may include associated metadata, calibration data, and documents. Verification is made to ensure that the ancillary data is received, accounted for, validated, archived, and updated in the appropriate inventories.  <b>NOTE:</b> For the purpose of testing the interface between the GSFC ECS DAAC and the NOAA ADC (Larry Server - DAO), this test will ingest one (1) of the NMC ancillary data sets listed in the "Test Inputs" section. However, all of the possible data sets are listed in the test inputs section. The data set to be ingested will be determined prior to performing this test.		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0145#A	This requirement is verified through test. Each DADS shall be capable of receiving from the ADCs, at a minimum, the following for the purpose of product generation: <ol style="list-style-type: none"> <li>L0-L4 equivalent data sets</li> <li>Metadata</li> <li>Ancillary data</li> <li>Calibration data</li> <li>Correlative data</li> <li>Documents</li> <li>Algorithms</li> </ol> The GSFC DAAC must receive data from the Larry Server-DAO for the purpose of product generation. The DAAC Ingest/Distribution Technician verifies that the ingested data and associated documentation is recorded in the Ingest History Log.	
DADS0250#A	This requirement is verified through test. Each DADS shall receive, at a minimum, data in the following forms: <ol style="list-style-type: none"> <li>Physical electronic media</li> <li>Electronic communications networks</li> <li>Hardcopy media</li> </ol> The INGST CI must provide the capability to electronically transfer data to be ingested into a specific GSFC ECS DAAC location. This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC. According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.	
DADS0290#A	This requirement is verified through test. Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size. The INGST CI must check selected parameters from extracted metadata to verify: <ol style="list-style-type: none"> <li>Metadata parameters stored in a dataset specific format</li> </ol>	

	<ul style="list-style-type: none"> <li>b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set</li> <li>d. That the metadata parameter syntax is correct</li> <li>e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>f. That date/time values include a valid month, day of month, hour, minute, and second</li> <li>g. That date/time values include a year within a range specific for that date/time value.</li> </ul>
DADS0300#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate status indicating the success or failure of metadata and data consistency checks.</p> <p>The GSFC DAAC must generate status indicating the success or failure of metadata and data consistency checks. The DAAC Ingest/Distribution Technician verifies that the History Log or Error Log, whichever is appropriate, is updated with the results of the data consistency checks.</p> <p>This test procedure does not cover reference to “failure”. Reference to “failure” is covered in test procedure #A090240.030\$G - Ingest. Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault).</p>
DADS0310#A	<p>This requirement is verified through test.</p> <p>Each DADS shall verify that data came from an approved/authorized source.</p> <p>The INGST CI must verify that the external data provider is an authorized provider of data to be ingested at the GSFC DAAC.</p>
DADS0350#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate the following metadata items, at a minimum:</p> <ul style="list-style-type: none"> <li>a. Unique Granule Id for L0</li> <li>b. Date and time of storage</li> <li>c. Physical location</li> <li>d. Data check status</li> <li>e. Unique format identifiers</li> </ul> <p>The STMGT CI must store the following metadata: granule id, date and time of storage, data check status and data format type. The DAAC Ingest/Distribution verifies that the metadata items have been generated by querying the inventory database.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
DADS0370#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the IMS with metadata on newly stored data granules.</p> <p>The GSFC DAAC must update directories with metadata on the newly stored data granules.</p>
DADS475#A	<p>This requirement is verified through test.</p> <p>The DADS shall provide storage for the following TRMM data:</p> <ul style="list-style-type: none"> <li>a. L1A-L4 equivalent data products</li> <li>b. Associated correlative data sets</li> <li>c. Associated ancillary data sets</li> <li>d. Associated calibration data sets</li> </ul>

	<p>e. Associated metadata</p> <p>f. Documents</p> <p>g. Algorithms</p> <p>The SDSRV CI must process Data Insert Requests that request the storage of TRMM data products and associated metadata. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated for the TRMM data products and associated metadata.</p> <p>This test procedure does not cover sub-letter (f). Sub-letter (f) is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
DADS0700#A	<p>This requirement is verified through test.</p> <p>Each DADS shall be capable of complying with data transfer cancellation or delay notifications.</p> <p>TSDIS must notify the GSFC ECS DAAC in the event anticipated TRMM data products are delayed. The GSFC ECS DAAC must be able to handle data transfer cancellations from TSDIS.</p>
DADS0770#A	<p>This requirement is verified through test.</p> <p>The DADS shall reformat data sets in one of the approved standard formats including HDF.</p> <p>The INGST CI must covert ingested data into an ECS standard format for NMC GRIB products.</p>
DADA0800#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format the following data types: NMC GRIB formatted final analysis product, NMC GRIB formatted medium range forecast product, and NESDIS Snow/Ice Product in EDR Mastermap format.</p>
DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of data.</p> <p>The INGST CI must return data check status to the provider of the data.</p> <p>The SDSRV CI must send storage status to the INGST CI indicating the completion of the archive process. The DAAC Ingest/Distribution Technician must have the capability to view the status of ongoing ingest requests including the following information: external data provider, ingest request identifier, total ingest data volume, and request state.</p>
DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> </ul>

	<ul style="list-style-type: none"> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS1100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.</p> <p>The GSFC DAAC operations staff (i.e., DAAC Ingest/Distribution Technician) must be able to select and extract Inventory Logs for selected time periods. The STMGT CI must record each archived data item in the Inventory Update Log.</p>
DADS1380#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.</p> <p>The INGST CI must report status on the performance of ingest requests to the MSS with the following: file transfer duration, file processing duration, and data insert duration.</p>
DADS1390#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between elements of the ECS and the DADS.</p> <p>The INGST CI must provide authorized operations staff the capability to view the status of ongoing ingest processing. The DAAC Ingest/Distribution must have the capability to view the following information: External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.</p>
DADS1510#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall ensure that IMS acknowledges receipt of metadata on all products stored in the DADS.</p> <p>The SDSRV CI must return a completion status to the provider of data only after all data and associated metadata has been successfully stored.</p>
DADS1520#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall provide an FSMS. Storage shall be based on a hierarchy of devices and media, with location-transparent access to the files.</p> <p>The STMGT CI must use a hierarchy of disk and/or tape storage devices and associated storage media to store data and provide location-transparent access to the archived data..</p> <p><b>NOTE: This requirement is being researched. 06/28/96</b></p>
DADS1780#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall ensure that IMS acknowledges receipt of metadata on all products stored in the DADS.</p> <p>The SDSRV CI must return a completion status to the provider of data only after all data and associated metadata has been successfully stored.</p>
DADS1800#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain data storage inventories defining the physical</p>

	<p>location of files.</p> <p>The STMGT CI must be capable of tracking the physical location of each data granule via use of the File Directory. The DAAC Ingest/Distribution Technician performs a search of the File Directory for the TRMM ancillary data products.</p>
DADS1805#A	<p>This requirement is verified through demonstration.</p> <p>The DADS shall provide an inventory system capable, at a minimum, of the following:</p> <ul style="list-style-type: none"> <li>a. Accepting the number of new inventory entries, one per granule, for the number of granules per day as specified in Appendix C</li> <li>b. Uniquely identifying each data granule</li> <li>c. Tracking the physical location of each data granule.</li> </ul> <p>The STMGT CI must maintain an Inventory Update Log. The following information is recorded in the log: time and date of update, unique data identifier, archive media name, source of data, storage device name and requester.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in the End-To-End Scenario Group.</p>
DADS2020#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall have the capability to receive data availability schedules at a minimum, from:</p> <ul style="list-style-type: none"> <li>a.</li> <li>c. ADCs</li> <li>e. Other DADS</li> <li>f. TRMM (SDPF)</li> </ul> <p>The GSFC DAAC must receive data availability schedules from the NOAA ADC concerning the availability of the NOAA ancillary data necessary for TSDIS product generation. The DAAC Ingest/Distribution Technician verifies the receipt of a data availability schedule from the NOAA ADC.</p> <p>This test procedure does not cover sub-letters (a, e, or f). Sub-letter (f) is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
EOSD1502#A	<p>This requirement is verified through demonstration.</p> <p>ECS elements shall use Ecom for data communications for the following types of data:</p> <ul style="list-style-type: none"> <li>a. Production data sets (Level 0 data)</li> <li>b. Expedited data sets</li> <li>c. Real-time data (for health and safety)</li> <li>d. Command data</li> <li>e. Data requested from back-up archive</li> <li>f. TDRSS schedule requests</li> <li>g. Data exchange with the FDF</li> <li>h. Production Data Transfers between DAACs</li> <li>i. Management Data exchange with SMC</li> <li>j. Data Products Exchange with ADCs, IPs, and Others</li> </ul> <p>The Larry Server-DAO must use EBnet for data communications for data exchange with ADCs.</p> <p>This test procedure does not cover sub-letters (a thru i). Sub-letters (a and b) are covered in test procedure #A090130.020\$G - AM-1 Data Ingest from EDOS at the GSFC DAAC. Sub-letters (c and d) are covered in the FOS Scenario Group. Need to get further clarification on sub-letter (e). Sub-letters (f and g) are not Release A functions. Sub-letter (h) is covered in the</p>

	End-To-End Scenario Group. Sub-letter (i) is covered in the System Management Scenario Group.
IMS-0300#A	<p>This requirement is verified through inspection.</p> <p>The IMS shall maintain a log of all information update activity.</p> <p>The ADSRV CI must maintain a log of all information read, write, update, and delete activity. The DAAC Ingest/Distribution Technician reviews the Event Log to verify that all information update activity has been recorded.</p>
IMS-0320#A	<p>This requirement is verified through inspection.</p> <p>Standard Product related metadata shall contain, at a minimum:</p> <ol style="list-style-type: none"> <li>Keywords and glossary from investigators</li> <li>Keywords, synonyms, and glossary for cross-product and cross-directory referencing</li> <li>Identifiers for locating products in the DADS archive by granule</li> <li>Documentation on algorithms, including version history, authors, written description of product, equations, and references</li> <li>Documentation on instrument(s) and spacecraft(s) including history of housekeeping and ancillary parameters, discipline characterization, calibration parameters, key individuals, and references</li> <li>Identifiers, algorithms, written descriptions, equations, authors, and references associated with static browse products and subsetted, subsampled, and summary data products</li> <li>Published papers, research results, significant results, and references by author and date</li> <li>Key organizations and personnel for all product-related DAACs, ADCs, and ODCs</li> <li>Granule-specific information as listed in Tables C-10 and C-11 in Appendix C</li> </ol> <p>The SDSRV CI Schema Information must include for each Data Type the Data Type Attributes for that Data Type and the Valid Values associated with each Data Type Attribute.</p> <p>This test procedure does not cover reference to “product-related DAACs and ODCs” (see sub-letter (h)). ODCs are not part of the Release A capabilities and functions.</p>
IMS-0330#A	<p>This requirement is verified through demonstration.</p> <p>The metadata maintained by the IMS shall provide a cross reference that relates science data to the following at a minimum:</p> <ol style="list-style-type: none"> <li>Calibration data, navigation data, and instrument engineering data</li> <li>Processing algorithms used for data generation at the PGS</li> <li>Software used for data generation at the PGS</li> <li>Parameters used for data generation at the PGS</li> <li>Input data used for data generation at the PGS</li> <li>Data recipients</li> <li>The PGS at which the data was processed</li> <li>QA and validation data, reports, and algorithms</li> </ol> <p>The SDSRV CI must have the ability to store references to calibration data, instrument engineering data, production history data, and QA statistics as metadata for science data.</p> <p>This test procedure does not cover sub-letters (b thru e, and g). Sub-letters (b thru g, and g) are covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>

IMS-0340#A	<p>This requirement is verified through inspection.</p> <p>The metadata maintained by the IMS shall contained content-based summary information, including statistical summaries and granule features, for all ECS standard and special products.</p> <p>The SDSRV CI must support inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.</p>
IMS-0890#A	<p>This requirement is verified through test.</p> <p>The IMS shall provide the capability to receive the metadata from the DADS when ADC or ODC data has been ingested into the ECS archives.</p> <p>The GSFC ECS DAAC inventory must be updated with the metadata that has been stored in the archive.</p> <p>ODCs are not covered during the Release A time frame.</p>
NOAA 0730#A	<p>This requirement is verified through test.</p> <p>The NMC shall have the capability to send and the ECS shall have the capability to receive Product Availability Lists.</p> <p>The NMC must send Product Availability Lists to the GSFC ECS DAAC indicating the availability of the NOAA ancillary data. The DAAC Ingest/Distribution Technician verifies the receipt of a Product Availability List.</p>
SDPS0020#A	<p>This requirement is verified through test.</p> <p>The SDPS shall receive EOS science, engineering, ancillary, and expedited data from the EDOS, and SDPF, and non-EOS ancillary data (as listed in Appendix C) from ADCs.</p> <p>The GSFC DAAC must receive non-EOS ancillary data from the Larry Server-DAO. The DAAC Ingest/Distribution Technician verifies that the ancillary data is recorded in the Ingest History Log.</p> <p>This test procedure does not cover reference to “EOS science, engineering, ancillary, and expedited data from the EDOS, and SDPF”. Reference to “EOS science, engineering, ancillary, and expedited data from the EDOS” is covered in test procedure #A090130.020\$G - AM-1 Data Ingest from EDOS at the GSFC DAAC. Reference to “EOS science, engineering, ancillary, and expedited data from the SDPF” is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
SDPS0021#A	<p>This requirement is verified through test. The SDPS shall convert the following ancillary data sets from their native formats into internal formats to allow access by science algorithms:</p> <ul style="list-style-type: none"> <li>a. NMC GRIB formatted final analysis product</li> <li>b. NESDIS Snow/Ice Product in DEF format</li> <li>c. TOMS products (format currently unspecified)</li> </ul> <p>The INSGT CI must covert ingested data into an ECS standard format, for following data types: NMC GRIB and NESDIS products.</p> <p>This procedure does not cover sub-letter (c). Sub-letter (c) is covered in test procedure #A090210.030\$G - Ingest, Validate, and Archive TOMS Ancillary Data from the V0 DAAC.</p>
SDPS0080#A	<p>This requirement is verified through test.</p> <p>The SDPS shall archive, manage, and quality check and account for all science data received from the EPDSs and ancillary data received from the EPDSs, the SCFs, the ADCs, other DAACs, PIs, and the other EOS science users.</p> <p>The GSFC DAAC must archive, manage, and quality check and account for all ancillary data received from the Larry Server-DAO.</p> <p>This test procedure does not cover reference to “science data received from</p>



the EPDSs” and “ancillary data received from the EPDSs, the SCFs, PIs, and the other EOS science users”.				
<b>Test Inputs:</b> Data Availability Schedules				
<b>Data Set Name</b>	<b>Data Set ID</b>	<b>File Name</b>	<b>Description</b>	<b>Version</b>
NMCFNL_001	TBD	TBD	Ancillary data; GRIB; 4 files/day	TBD
NMCMRF_001	TBD	TBD	Ancillary data; GRIB; 20 files/day	TBD
NMCETA_001	TBD	TBD	Ancillary data; GRIB; 8 files/day	TBD

<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	DAAC Resource Planner: Invokes the Resource Planning Tool.	
40	Expected Result: The Resource Planning Tool is invoked.	
50	DAAC Resource Planner: Views the Resource Planning Tool GUI screen and options on their terminal.	
60	Expected Result: The Resource Planning Tool GUI displays the following options: - Edit - Review - Report - Plan - Configure	
70	DAAC Resource Planner: Selects the “Review” option from the Resource Planning Tool GUI screen.	
80	Expected Result: The current scheduled activities are displayed on the DAAC Resource Planner’s screen.	
90	DAAC Resource Planner: Reviews the current scheduled activities and verifies that resources have been allocated for the ingest of the TRMM data from the Larry Server-DAO.	
100	Expected Result: Resource Planning Tool GUI displays the current scheduled activities on the screen and indicates that resources have been allocated for the ingest of data from the Larry Server-DAO.	
110	DAAC Resource Planner: Exits the Resource Planning Tool GUI and notifies the DAAC Ingest/Distribution Technician that resources are available and ready for the ingest of the ancillary data.	
120	Expected Result: Resource Planning Tool GUI is exited and the DAAC Ingest/Distribution Technician is notified on the availability of the resources necessary for ingesting data.	
130	DAAC Ingest/Distribution Technician: Enters a subscription requesting notification upon receipt of ancillary data.	
140	Expected Result: The system stores the subscription pending receipt of the ancillary data.	
141	GSFC ECS DAAC: Sends an Ancillary Data Request to the NOAA ADC (Larry Server - DAO) requesting the NMC ancillary data.	
142	Expected Result: The Larry Server - DAO receives the Ancillary Data Request sent by the GSFC ECS DAAC.	
143	NOAA ADC (Larry Server - DAO): Sends a Product Availability List to the GSFC ECS DAAC indicating the availability of the requested NMC ancillary data products.	

144	Expected Result: The GSFC ECS DAAC receives the Product Availability List from the NOAA ADC (Larry Server - DAO).	
145	DAAC Ingest/Distribution Technician: Receives a prompt on the screen that an e-mail message has been sent to their mailbox.	
146	Expected Result: The DAAC Ingest/Distribution Technician retrieves the e-mail message and downloads the message containing the Product Availability List information.	
150	DAAC Ingest/Distribution Technician: Accesses the Main Ingest GUI screen and selects the "Monitor" option on the screen.	
160	Expected Result: The Ingest Status Monitor Tool is invoked and the screen identifies ongoing ingest requests (stored in Sybase tables) and displays them for the DAAC Ingest/Distribution Technician.	
161	NOAA ADC (Larry Server - DAO): Sends a data availability schedule to the GSFC ECS DAAC indicating the scheduled availability of the NMC ancillary data.	
162	Expected Result: The GSFC ECS DAAC receives the NOAA ADC (Larry Server - DAO) data availability schedule. The DAAC Ingest/Distribution Technician downloads the file and reviews the schedule.	
170	Larry Server-DAO: Application software automatically sets up to write data ancillary data and Delivery Record to specified location within the GSFC ECS DAAC.	
180	Expected Result: The System automatically checks a predetermined network location for the presence of a Delivery Record file. Once a Delivery Record file is located, the system automatically coordinates the data transfer with the Larry Server-DAO using ftp services. After the data and Delivery Record file is received, the INGST CSCI automatically checkpoints request information extracted from the Delivery Record into a Sybase data base.	
190	DAAC Ingest/Distribution Technician: Periodically reviews the Ingest Status Monitor display. Looks for ingest requests that have been queued for an unexpected period.	

200	<p>Expected Result: The system automatically extracts metadata from transferred ancillary data, checks the metadata, (e.g. range checks). Selected parameters from the extracted metadata are checked to verify:</p> <ol style="list-style-type: none"> <li>Metadata parameters stored in a dataset specific format</li> <li>For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specific set</li> <li>That the metadata parameter syntax is correct</li> <li>For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>That date/time values include a valid month, day of month, hour, minute, and second</li> <li>That date/time values include a year within a range specific for that date/time value.</li> </ol> <p>Format conversion to from GRIB to HDF-EOS is automatically performed for all ancillary products identified as requiring conversion. The data and metadata are inserted into the appropriate Data Server. Request state (active, file transferred, data insertion complete, etc.) is updated in the checkpointed request information.</p>	
210	DAAC Ingest/Distribution Technician: Periodically reviews the MSS Event Log to visually determine anomalous conditions (e.g., a pattern of metadata check errors).	
220	Expected Result: The system automatically logs events by means of the MSS Event Logging capability. Entries recorded in this log include detection of out-of-range metadata values, incompletely-transferred data files, etc.	
221	DAAC Ingest/Distribution Technician: Accesses the “Ingest Status Monitoring GUI Screen” to view the status of ongoing ingest processing. The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	
222	Expected Result: The “Ingest Status Monitoring GUI Screen” displays the necessary information concerning the status of ongoing ingest processing.	
230	DAAC Ingest/Distribution Technician: Observes the removal of the completed ingest request from the Status Monitor display. Verifies that a electronic mail message is sent to the Larry Server-DAO indicating successful insertion of the ancillary data into the Data Server.	
240	Expected Result: The system sends status to the Larry Server-DAO by means of electronic mail indicating the successful insertion of the ancillary data into the Data Server.	
250	GSFC ECS DAAC: Automatically determines the existence of subscriptions pending receipt of the ancillary data and sends a subscription notice to the requesting entity.	
260	Expected Result: All existing subscriptions are collected and a subscription notice is sent to the requesting entity.	
270	DAAC Ingest/Distribution Technician: Views summary information concerning the completed ingest requests via the GUI Ingest History Log tool.	

280	Expected Result: The system displays the Ingest History Log which contains summary information on the following: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
290	DAAC Ingest/Distribution Technician: Accesses the Ingest Summary Report GUI Screen and selects both the “Ingest Data Summary Report” and “Ingest Error Report” options. Generates and reviews both copies of the summary reports.	
300	Expected Result: The system generates the summary reports detailing the completed ingest requests, including completion status, data volume ingested, etc.	
310	DAAC Ingest/Distribution Technician: Invokes the DSS System Management Tool and accesses the Storage Management screen. Examines the progress of a particular insert request on the screen by selecting the “Log and Reports (MSS)” option from the screen.	
320	Expected Result: The DSS System Management Tool is accessed and the Storage Management screen is displayed. The “Log and Reports (MSS)” option is selected and the log files are displayed on the screen.	
330	DAAC Ingest/Distribution Technician: Receives a data insert request validation message on the screen.	
340	Expected Result: The Processing subsystem sends a Data Insert Request to the Science Data Server. Receipt of the request is logged and a request identifier is associated with the Data Insert Request.	
350	DAAC Ingest/Distribution Technician: Continues to receive and review status concerning the data insert requests. Accesses the Data Server System Management screen and selects the “Requests” option.	
360	Expected Result: The queued Data Insert Request is reached and processing begins. Associated data granules and metadata are transferred from the Processing Subsystem to the Data Server working storage. Data transfer status (including recoverable errors) are indicated in the event log (via MSS Logging Services). The metadata update file(s) produced by the associated data product PGEs are validated for completeness and correctness. Validation success or failure is logged (via MSS Logging Services) with the associated Data Insert Request Identifier and the appropriate status message is returned to the Processing Subsystem.	
370	DAAC Ingest/Distribution Technician: Accesses the Archive Activity screen and selects the “Archive Activity Log” option to view information concerning the archive activities of the data insert request.	
380	Expected Result: The Archive Activity Log displays each data product being stored and storage status of each storage operation.	
381	DAAC Ingest/Distribution Technician: Accesses the Archive Activity Log screen, selects the sort option of “Time & Date”. Views the following information on the screen: Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	
382	Expected Result: The Archive Activity Log screen displays information pertaining to the data granules contained within the Data Storage Request.	

390	DAAC Ingest/Distribution Technician: Accesses the Inventory Update Log screen and selects the “Time & Date”, “Requester”, “Request ID”, “Volume” and “UR” options to generate a report concerning the contents of the inventory.	
400	Expected Result: The Inventory Update Log screen is accessed and displays the following fields “Time & Date”, “Request ID”, “Requester Name”, “Volume Name”, “UR”, and “Checksum”. A checksum value is calculated for each data object associated with each granule. The checksum value, storage status, and other selected metadata is forwarded to the Science Data Server in a status message upon completion of the Data Storage Request.	
410	DAAC Ingest/Distribution Technician: Continues to examine the progress of the data insert request by selecting the “Log and Reports (MSS)” option from the Storage Management screen.	
420	Expected Result: Science Data Server receives and logs the Data Storage Request status message from Storage Management. The additional metadata items are validated. The PGE produced metadata update file and the storage management provided metadata are loaded into the metadata database. The status of the metadata load is entered in the event log (via MSS Logging Services).	
430	DAAC Ingest/Distribution Technician, DAAC Archive Manager, and the Larry Server-DAO: Receive notice concerning the status of the data insert request(s).	
440	Expected Result: The Science Data Server logs completion of the Data Insert Request in the event log and reports completion of the Data Insert Request to the DAAC Archive Manager, DAAC Ingest/Distribution Technician, and the Larry Server-DAO.	
450	DAAC Ingest/Distribution Technician: Reviews the progress on subscription processing by accessing the Science Data Server Main Window Screen and selecting the “Subscriptions” option to view subscription submitted for the data.	
460	Expected Result: The Science Data Server examines the event list for all subscriptions for that event. Subscription notifications are sent to the Larry Server-DAO.	
470	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the newly inserted data products.	
480	Expected Result: The queried ancillary data products are located in the GSFC ECS DAAC inventory and displayed on the screen.	
490	DAAC Ingest/Distribution Technician: Accesses the Search and Order Tool to do a query for the NOAA Ancillary Data.	
500	Expected Result: The NOAA Ancillary Data is located in the inventory as a single entity of logically grouped sets of data.	
510	DAAC Ingest/Distribution Technician: Logs off of the system.	
520	Expected Result: Log off procedures are completed.	

**Data Reduction and Analysis Steps:**

1. Review the “Ingest History Log” for the following information:
  - Request ID
  - Priority
  - Data Provider
  - Start Time
  - Completion Status
  - Restart Flag
  - Pre-Processing Time
  - Transfer Time
  - Archive Time
  - Number of Files
  - Number of Granules
  - Number of Successful Granules
  - Data Volume
  - Ingest Type
2. Review the MSS Event Log
3. Generate the “Ingest Dataset Error Summary” Report and review for the following entries:
  - Data Provider
  - Data Type
  - Error Type
  - Error Count
4. Generate the “Ingest Error Summary” Report and review for the following entries:
  - Error Type
  - Error Count
5. Review Validation Reports for the following information extracted from the metadata:
  - Metadata parameters stored in a dataset specific format
  - For numeric parameters limited by a range of values, that parameter values lie within the specified range
  - For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set
  - That the metadata parameter syntax is correct
  - For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)
  - That date/time values include a valid month, day of month, hour, minute, and second
  - That date/time values include a year within a range of specific for that date/time value

**Data Reduction and Analysis Steps cont. :**

6. Review the “Inventory Update Log” for the following entries:

- Time and Date
- Request ID
- Requester Name
- Volume Name
- UR
- Checksum

7. Review the “Archive Activity Log” for the following entries:

- Time and Date
- Request ID
- Client ID
- Operation
- Filename
- Archive Name
- Volume Name

**Signature:**

**Date:**

### 9.3 Reprocessing Scenario

This scenario is not applicable to the ECS System Acceptance Test Procedures - Volume 2 GSFC Procedures document (411/VE1).

### 9.4 TSDIS Reprocessing Support Scenario

The TSDIS Reprocessing Support Scenario carries the GSFC DAAC operations staff through the operational steps necessary to distribute TSDIS TRMM VIRS, PR, TMI, and GV data sets for reprocessing previously ingested, validated, and archived at the GSFC DAAC. This scenario verifies the capability of TSDIS to send a Data Request to the GSFC DAAC for the VIRS data products currently archived at the site. The capability to update related directories and inventory files is verified in this scenario.

#### 9.4.1 Archived TRMM Data Delivery Sequence

This sequence of tests verifies the ability of the GSFC DAAC to distribute archived TSDIS TRMM VIRS, PR, TMI, and GV data products and ancillary data to TSDIS for the purpose of reprocessing. This sequence verifies the capability of the GSFC DAAC to extract the archived data from the data server and distribute the data to TSDIS electronically.

**Configuration:** The subsystems needed to perform this sequence of tests are as follows: CSS/MSS, DPS, DSS, INS, ISS & PLS. Refer to Appendix D for additional detail.



**External Interfaces:** The external interfaces (i.e., other ECS sites and data sources) needed for a sequence (both real and simulated) are listed:

SMC

TSDIS (simulated)

**Operator Position(s):** The operator positions from the ECS Maintenance and Operations Descriptions document (607/OP2) needed to support a sequence are listed:

DAAC Ingest/Distribution Technician

**Operational Scenario(s):**

There are no operations scenarios taken from the Operations Scenarios for the ECS Project: Release A (605/OP1) used during this sequence of tests.

**Test Dependencies:** A table identifies the test procedure(s) in a sequence of tests that should be run prior to or concurrently with a sequence or test procedure.

Test Procedure No.	Site/Procedure No.	Comments
A090410.030\$G	A090430.010\$G	Run prior

#### **TSDIS Data Requests Receipt/Validation at the MSFC DAAC**

This test procedure has been combined with test procedure #A090410.030\$G - GSFC DAAC Data Requests Receipt, Validation, and Deliver Archived TRMM Data to TSDIS.

#### **9.4.1.2 Deliver Archived TRMM Data to the TSDIS from the MSFC DAAC**

This test procedure has been combined with test procedure #A090410.030\$G - GSFC DAAC Data Requests Receipt, Validation, and Deliver Archived TRMM Data to TSDIS.

#### **9.4.1.3 GSFC DAAC Data Requests Receipt, Validation, and Deliver Archived TRMM Data to TSDIS**

<b>TEST Procedure No.:</b> A090410.030\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b>	GSFC DAAC Data Requests Receipt, Validation, and Deliver Archived TRMM Data to TSDIS	
<b>Objective:</b>	The purpose of this test is to verify the capability of the GSFC DAAC to send archived VIRS, GV, PR, and TMI data to TSDIS. This archived data is requested by TSDIS for reprocessing. This test verifies the capability of the GSFC DAAC to receive a data request from TSDIS for the VIRS data products, metadata, browse data, science software, associated documentation, and AVHRR, GPI, GPCP, and NMC ancillary data archived at the site. This test also verifies the capability of the GSFC DAAC to retrieve the desired data from its archive and send to TSDIS.	
<b>Requirements</b>	<b>Acceptance Criteria</b>	
TRMM3110#A	This requirement is verified through test. TRMM shall make a standing order to ECS for SSM/I data to be delivered from the ECS systems at the MSFC DAAC to TSDIS. The GSFC ECS DAAC must send SSM/I data to TSDIS pending a standing	

	<p>order.</p> <p><b>NOTE: MSFC SSM/I data to be ingested at the GSFC DAAC.</b></p> <p><b>CCR to be submitted to place “External Requirement: No action required by ECS” in the requirement_interpretation field of the RBR.</b></p>
TRMM 4100#A	<p>This requirement is verified through test.</p> <p>TSDIS shall make a standing order to ECS for AVHRR, GPI, GPCP, and NMC ancillary data to be delivered from the ECS systems at the GSFC DAAC to TSDIS.</p> <p>The GSFC ECS DAAC must send AVHRR, GPI, GPCP, and NMC ancillary data to TSDIS pending a standing order.</p> <p><b>CCR to be submitted to place “External Requirement: No action required by ECS” in the requirement_interpretation field of the RBR.</b></p>
<b>Test Inputs:</b> TSDIS Data Request	

Step-By-Step Procedures		
Step No.	Input Action / Expected Results	Pass / Fail / Comments
10	Tester: Invokes the TSDIS simulator to begin test for interface between the GSFC ECS DAAC and TSDIS.	
20	Expected Result: TSDIS simulator is invoked and ready for testing of interface between the GSFC ECS DAAC and TSDIS.	
30	TSDIS: Sends a Data Request (DR) to the GSFC ECS DAAC for archived Level 1A thru Level 3B VIRS, GV, PR, and TMI standard products; and AVHRR, GPCP, GPI, NMC, and SSM/I ancillary data.	
40	Expected Result: TSDIS sends a DR to the GSFC ECS DAAC indicating archived TRMM data desired for retrieval from the GSFC ECS DAAC archive.	
50	DAAC Ingest/Distribution Technician: Reviews the Ingest Log and notices that a DR has been submitted by TSDIS for archived data. Checks subscription listings and notices that there are subscriptions pending for desired TRMM data.	
60	Expected Result: The TSDIS DR is displayed on the DAAC Ingest/Distribution Technician's screen indicating the specific TRMM data requested by TSDIS. Subscriptions are located for the desired TRMM data.	
70	GSFC ECS DAAC: Checks its archives for the existence of the requested files and checks for available disk space on the file server.	
80	Expected Result: The system's archives are searched for the presence of the requested data and checks are made to ensure that disk space is available on the file server for the planned data transfer.	
90	DAAC Ingest/Distribution Technician: Reviews the log and verifies that a Data Request Acknowledgment (DRA) message indicating the disposition of the data request is sent to TSDIS.	
100	Expected Result: A DRA is sent to TSDIS indicating the disposition of the submitted DR.	
110	GSFC ECS DAAC: Retrieves all of the requested data from its archive and places it on the designated data server.	
120	Expected Result: All of the requested data is retrieved from the archive and placed on the designated data server.	
130	DAAC Ingest/Distribution Technician: Reviews the log and verifies that a Data Availability Notice (DAN) is sent to TSDIS indicating that the requested data is available for ingest. Downloads the DAN and verifies that the following information is included in the DAN: number of files, file sizes, file names, and directory paths for the files available. <b>NOTE: There is one DAN sent for each and every DR.</b>	
140	Expected Result: A DAN is sent to TSDIS indicating the availability of the requested data. The DAN includes number of files, file sizes, file names, and directory paths for the files available.	

150	TSDIS Simulator: Begins the kftp file transfer and transfers all the files in each error-free file group listed in the DAN.	
160	Expected Result: TSDIS kftps all of the requested data files and validates the ingested data against the information recorded in the DAN.	
170	TSDIS Simulator: Sends the GSFC ECS DAAC a Data Delivery Notice (DDN) indicating the successful retrieval and validation of the requested data products.	
180	Expected Result: The GSFC ECS DAAC receives a DDN from TSDIS.	
190	DAAC Ingest/Distribution Technician: Reviews the log and verifies that a Data Delivery Acknowledgment (DDA) is sent to TSDIS.	
200	Expected Result: TSDIS receives the DDA sent by the GSFC ECS DAAC.	
	<b>NOTE: At this point in the procedure, TSDIS takes over with the reprocessing of the ingested TRMM data. The GSFC ECS DAAC is not involved in this action. The role of the GSFC ECS DAAC is started in test procedure # A090430.010\$G.</b>	
<b>Data Reduction and Analysis Steps:</b> 1. Review Data Request from TSDIS for the following parameter headers/information:  ORIGINATING_SYSTEM DESTINATION_USER DR_SEQ_NO DELIVERY_TYPE MEDIA_TYPE OBJECT GRANULE_ID END_OBJECT : { for any additional granule groups } : FILE_TYPE INSTRUM_ID DATA_TYPE BEGINNING_DATE/TIME ENDING_DATE/TIME END_OBJECT		
<b>Signature:</b>		<b>Date:</b>

#### 9.4.1.4 Deliver Archived TRMM Data to the TSDIS from the GSFC DAAC

This test procedure has been combined with test procedure #A090410.030\$G - GSFC DAAC Data Requests Receipt, Validation, and Deliver Archived TRMM Data to TSDIS.

#### **9.4.2 Reprocessed Data Receipt from the TSDIS (MSFC) Sequence**

This sequence has been combined with sequence # 9.4.3 - Reprocessed Data Receipt from the TSDIS (GSFC) Sequence.

#### **9.4.3 Reprocessed Data Receipt from the TSDIS (GSFC) Sequence**

This scenario verifies the ability of the ECS at the GSFC DAAC to ingest reprocessed data from TSDIS for the TRMM VIRS instruments. This sequence of tests verifies the GSFC DAAC capability to ingest reprocessed data on a routine basis from TSDIS. Upon receipt of the reprocessed VIRS data, verification is performed to ensure that the GSFC DAAC performs a data check for consistency, extracts metadata, updates the metadata with inventory and consistency check information, stages the data for storage, sends data check status to the TSDIS, and updates the data receipt log.

**Configuration:** The subsystems needed to perform this sequence of tests are as follows: CSS/MSS, DPS, DSS, INS, ISS & PLS. Refer to Appendix D for additional detail.

**External Interfaces:** The external interfaces (i.e., other ECS sites and data sources) needed for a sequence (both real and simulated) are listed:

SMC

TSDIS (simulated)

**Operator Position(s):** The operator positions from the ECS Maintenance and Operations Descriptions document (607/OP2) needed to support a sequence are listed:

DAAC Ingest/Distribution Technician

DAAC Resource Planner

DAAC Archive Manager

**Operational Scenario(s):**

There are no operations scenarios taken from the Operations Scenarios for the ECS Project: Release-A (605/OP1) used during this sequence of tests.

**Test Dependencies:**

There are no test dependencies needed for this sequence of tests.

#### 9.4.3.1 Reprocessed Data Receipt at the GSFC DAAC from TSDIS

<b>TEST Procedure No.:</b> A090430.010\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Reprocessed Data Receipt at the GSFC DAAC from TSDIS		
<b>Objective:</b> The purpose of this test is to verify that capability of the GSFC ECS DAAC to ingest reprocessed data from TSDIS. TSDIS reprocesses the VIRS TRMM data. Upon receipt of the reprocessed data, verification is performed to ensure that the GSFC DAAC performs a data check for consistency, extracts metadata, updates the metadata with inventory and consistency information, stages the data for storage, sends data check status to TSDIS, and updates the data receipt log.  <b>NOTE: For the purpose of this test, only the VIRS 1 A-B data will be reprocessed by TSDIS and ingested by the GSFC ECS DAAC. Please refer to the “Test Inputs” section.</b>		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0250#A	This requirement is verified through test. Each DADS shall receive, at a minimum, data in the following forms: a. Physical electronic media b. Electronic communications networks c. Hardcopy media The INGST CI must provide the capability to electronically transfer data to be ingested into a specified GSFC ECS DAAC location. This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in test procedure #A090210.020\$G - Ingest, Validate, and Archive Migration Version 0 Data from the V0 DAAC. According to the requirement interpretation, Release A only covers physical and electronic network. This test procedure does not cover sub-letter (c) - Hardcopy media.	
DADS0290#A	This requirement is verified through test. Each DADS shall check all metadata and data it receives. For each type of data described by the metadata, the data shall be checked for the presence of required fields, and correctness of the data set granule size. The INGST CI must check selected parameters from extracted metadata to verify: a. Metadata parameters stored in a dataset specific format b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set d. That the metadata parameter syntax is correct e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance) f. That date/time values include a valid month, day of month, hour, minute, and second g. That date/time values include a year within a range specific for that date/time value.	
DADS0300#A	This requirement is verified through test. Each DADS shall generate status indicating the success or failure of metadata and data consistency checks. The GSFC DAAC must generate status indicating the success or failure of metadata and data consistency checks. The DAAC Ingest/Distribution	

	<p>Technician verifies that the History Log or Error Log, whichever is appropriate, is updated with the results of the data consistency checks.</p> <p>This test procedure does not cover reference to “failure”. Reference to “failure” is covered in test procedure #A090240.030\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Data from TSDIS (Fault).</p>
DADS0310#A	<p>This requirement is verified through test.</p> <p>Each DADS shall verify that data came from an approved/authorized source. The INGST CI must verify that the external data provider is an authorized provider of data to be ingested at the GSFC DAAC.</p>
DADS0350#A	<p>This requirement is verified through test.</p> <p>Each DADS shall generate the following metadata items, at a minimum:</p> <ol style="list-style-type: none"> <li>Unique Granule Id for L0</li> <li>Date and time of storage</li> <li>Physical location</li> <li>Data check status</li> <li>Unique format identifiers</li> </ol> <p>The STMGT CI must store the following metadata: granule id, date and time of storage, data check status and data format type. The DAAC Ingest/Distribution verifies that the metadata items have been generated by querying the inventory database.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
DADS0370#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the IMS with metadata on newly stored data granules.</p> <p>The GSFC DAAC must update directories with metadata on the newly stored data granules.</p>
DADS0440#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide storage, at a minimum, for the following EOS data:</p> <ol style="list-style-type: none"> <li>Standard Products</li> <li>Associated correlative data sets</li> <li>Associated ancillary data sets</li> <li>Associated calibration data sets</li> <li>Associated metadata</li> <li>Documents</li> <li>Algorithms</li> <li>Format descriptions (e.g., HDF spec.)</li> </ol> <p>The GSFC DAAC must provide storage for EOS data. The SDSRV CI must interface with the STMGT CI to provide storage for standard products; associated correlative, calibration and ancillary data sets; associated metadata; algorithms; and format descriptions. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letter (f). Sub-letter (f) is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
DADS0475#A	<p>This requirement is verified through test.</p> <p>The DADS shall provide storage for the following TRMM data:</p> <ol style="list-style-type: none"> <li>L1A-L4 equivalent data products</li> </ol>

	<ul style="list-style-type: none"> <li>b. Associated correlative data sets</li> <li>c. Associated ancillary data sets</li> <li>d. Associated calibration data sets</li> <li>e. Associated metadata</li> <li>f. Documents</li> <li>g. Algorithms</li> </ul> <p>The GSFC DAAC must provide storage for the following TRMM data: L1A-L4 equivalent data products; associated correlative, ancillary, and calibration data sets; associated metadata; and algorithms. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p> <p>This test procedure does not cover sub-letter (f). Sub-letter (f) is covered in test procedure #A090240.020\$G - Ingest, Validate, and Archive VIRS, PR, TMI, and GV Documentation from TSDIS.</p>
DADS0490#A	<p>This requirement is verified through test.</p> <p>Each DADS shall archive Level 1B - Level 4 data products.</p> <p>The SDSRV CI must process Data Insert Requests for the reprocessed TRMM data products. The system must check the following fields on the Data Insert Request for correct data entries: request identifier, date of request, priority information, data type and original identifier. The DAAC Ingest/Distribution Technician verifies that upon completion of storage, the system sends a storage status notice to the provider of the ingest data.</p>
DADS0610#A	<p>This requirement is verified through test.</p> <p>Each DADS shall support reprocessing.</p> <p>The GSFC ECS DAAC must receive and store reprocessed data granules ingested from TSDIS. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated and the TSDIS reprocessed data is archived and updated in the inventory.</p>
DADS0700#A	<p>This requirement is verified through test.</p> <p>Each DADS shall be capable of complying with data transfer cancellation or delay notifications.</p> <p>TSDIS must notify the GSFC ECS DAAC in the event anticipated TRMM data products are delayed. The GSFC ECS DAAC must be able to handle data transfer cancellations from TSDIS.</p>
DADS0770#A	<p>This requirement is verified through test.</p> <p>The DADS shall reformat data sets in one of the approved standard formats including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format for TSDIS data products.</p>
DADS0800#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the capability to translate input data to the internal ECS format including HDF.</p> <p>The INGST CI must convert ingested data into an ECS standard format for TSDIS data products.</p>
DADS1070#A	<p>This requirement is verified through test.</p> <p>The DADS shall send data check and storage status to the provider of data.</p> <p>The INGST CI must return data check status to the provider of the data.</p> <p>The SDSRV CI must send storage status to the INGST CI indicating the completion of the archive process. The DAAC Ingest/Distribution Technician must have the capability to view the status of ongoing ingest requests including the following information: external data provider, ingest request identifier, total ingest data volume, and request state.</p>



DADS1080#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a data receipt log.</p> <p>The DAAC Ingest/Distribution Technician verifies that the Ingest History Log is updated with the following information:</p> <ul style="list-style-type: none"> <li>- Request ID</li> <li>- Priority</li> <li>- Data Provider</li> <li>- Start Time</li> <li>- End Time</li> <li>- Completion Status</li> <li>- Restart Flag</li> <li>- Pre-Processing Time</li> <li>- Transfer Time</li> <li>- Archive Time</li> <li>- Number of Files</li> <li>- Number of Granules</li> <li>- Number of Successful Granules</li> <li>- Data Volume</li> <li>- Ingest Type</li> </ul>
DADS1100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall maintain a log of all updates to the local inventory. The log shall be used to generate status reports and, in conjunction with the inventory backup, recreate the local inventory in the event of catastrophic failure.</p> <p>The GSFC DAAC operations staff (i.e., DAAC Ingest/Distribution Technician) must be able to select and extract Inventory Logs for selected time periods. The STMGT CI must record each archived data item in the Inventory Update Log.</p>
DADS1160#A	<p>This requirement is verified through test.</p> <p>Each DADS shall provide the IMS with metadata reflecting changes as a result of:</p> <ol style="list-style-type: none"> <li>a. Purges</li> <li>b. Transfers to other site(s)</li> <li>c. Unexpected loss</li> <li>d. Updates</li> </ol> <p>The SDSRV CI must update the metadata whenever a data item is updated. The DAAC Ingest/Distribution Technician verifies that the updated metadata from the TSDIS reprocessed data is inserted in the inventory. The DAAC Ingest/Distribution Technician queries the inventory to verify the insertion and presence of the updated metadata.</p> <p>This test procedure does not cover sub-letters (a thru c).</p>
DADS1380#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between external (non-ECS) elements and the DADS.</p>

	The INGST CI must report status on the performance of ingest requests to the MSS with the following: file transfer duration, file processing duration, and data insert duration.
DADS1390#A	<p>This requirement is verified through test.</p> <p>Each DADS shall monitor data transfer between elements of the ECS and the DADS.</p> <p>The INGST CI must provide authorized operations staff the capability to view the status of ongoing ingest processing. The DAAC Ingest/Distribution must have the capability to view the following information: External Data Provider, ingest Request Identifier, total ingest data volume, and Request State.</p>
DADS1510#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall ensure that IMS acknowledges receipt of metadata on all products stored in the DADS.</p> <p>The SDSRV CI must return a successful completion status to the provider of data only after all data and associated metadata has been successfully stored.</p>
DADS1780#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall provide the capability to store as a single entity logically grouped sets of data.</p> <p>The STMGT CI must support the capability to logically group a set of granule ids such that the set can be referenced by a single identifier.</p>
DADS1795#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall update internal file directories with the unique Data set ID.</p> <p>The STMGT CI must maintain a unique data set id for each data item in its File Directory. The DAAC Ingest/Distribution Technician queries the File Directory database to verify that each TSDIS data item has a unique data set id.</p>
DADS1800#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain data storage inventories defining the physical location of files.</p> <p>The STMGT CI must be capable of tracking the physical location of each data granule via use of the File Directory. The DAAC Ingest/Distribution Technician performs a search of the File Directory for the TSDIS data products.</p>
DADS1805#A	<p>This requirement is verified through demonstration.</p> <p>The DADS shall provide an inventory system capable, at a minimum, of the following:</p> <ol style="list-style-type: none"> <li>Accepting the number of new inventory entries, one per granule, for the number of granules per day as specified in Appendix C</li> <li>Uniquely identifying each data granule</li> <li>Tracking the physical location of each data granule.</li> </ol> <p>The STMGT CI must maintain an Inventory Update Log. The following information is recorded in the log: time and date of update, unique data identifier, archive media name, source of data, storage device name and requester.</p> <p>This test procedure does not cover sub-letter (a). Sub-letter (a) is covered in the End-To-End Scenario Group.</p>
DADS2180#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall maintain a list/schedule of reprocessed data.</p> <p>The GSFC ECS DAAC must maintain a list of reprocessed data. The DAAC Ingest/Distribution Technician verifies that the newly reprocessed TSDIS data products have been updated and recorded in the File Directory.</p>

	This test procedure does not cover “schedule”.
EOSD0030#A	<p>This requirement is verified through test.</p> <p>ECS shall, during its lifetime, ingest, archive distribute and provide search and access for EOS TRMM, Landsat 7 (including IGS metadata and browse) and related non-EOS data and products.</p> <p>The GSFC ECS DAAC must ingest, archive, and distribution EOS TRMM data and products. The DAAC Ingest/Distribution Technician verifies that the TSDIS reprocessed data is ingested and archived in the GSFC ECS DAAC.</p> <p>This test procedure does not cover reference to “ingest, archive, distribute, provide search and access for Landsat 7 (including IGS metadata and browse) and related non-EOS data and products” and “distribute EOS TRMM”. Reference to “ingest, archive, distribute, provide search and access for Landsat 7 (including IGS metadata and browse)” is covered in sequence #9.2.4 - Volume 4 EDC Procedures document (411/VE1). Reference to “ingest and archive non-EOS data and products” is covered in test procedure #A090270.010 - Ingest, Validate, and Archive NOAA ADC Ancillary Data.</p>
EOSD1607#A	<p>This requirement is verified through test.</p> <p>ECS shall receive data from near term Earth Probe missions to include the following as a minimum:</p> <ol style="list-style-type: none"> <li>TRMM data for archive and distribution</li> <li>Landsat 7 data for archive and distribution including IGS metadata and browse</li> </ol> <p>The GSFC ECS DAAC shall ingest TRMM data for archive and distribution. The DAAC Ingest/Distribution Technician verifies that a Data Insert Request is generated and the data products are archived and the File Directory is updated.</p> <p>This test procedure does not cover sub-letter (b). Sub-letter (b) is to be covered in sequence #9.2.4 - Volume 4 EDC Procedures document (411/VE1).</p>
IMS-0300#A	<p>This requirement is verified through inspection.</p> <p>The IMS shall maintain a log of all information update activity.</p> <p>The ADSRV CI must maintain a log of all information read, write, update, and delete activity. The DAAC Ingest/Distribution Technician reviews the Event Log to verify that all information update activity has been recorded.</p>
IMS-0320#A	<p>This requirement is verified through inspection.</p> <p>Standard Product related metadata shall contain, at a minimum:</p> <ol style="list-style-type: none"> <li>Keywords and glossary from investigators</li> <li>Keywords, synonyms, and glossary for cross-product and cross-directory referencing</li> <li>Identifiers for locating products in the DADS archive by granule</li> <li>Documentation on algorithms, including version history, authors, written description of product, equations, and references</li> <li>Documentation on instrument(s) and spacecraft(s) including history of housekeeping and ancillary parameters, discipline characterization, calibration parameters, key individuals, and references</li> <li>Identifiers, algorithms, written descriptions, equations, authors, and references associated with static browse products and subsetted, subsampled, and summary data products</li> <li>Published papers, research results, significant results, and references by author and date</li> <li>Key organizations and personnel for all product-related DAACs, ADCs, and ODCs</li> </ol>

	<p>i. Granule-specific information as listed in Tables C-10 and C-11 in Appendix C</p> <p>The SDSRV CI Schema Information must include for each Data Type the Data Type Attributes for that Data Type and the Valid Values associated with each Data Type Attribute.</p> <p>This test procedure does not cover reference to sub-letter (h).</p>
IMS-0330#A	<p>This requirement is verified through demonstration.</p> <p>The metadata maintained by the IMS shall provide a cross reference that relates science data to the following at a minimum:</p> <ul style="list-style-type: none"> <li>a. Calibration data, navigation data, and instrument engineering data</li> <li>b. Processing algorithms used for data generation at the PGS</li> <li>c. Software used for data generation at the PGS</li> <li>d. Parameters used for data generation at the PGS</li> <li>e. Input data used for data generation at the PGS</li> <li>f. Data recipients</li> <li>g. The PGS at which the data was processed</li> <li>h. QA and validation data, reports, and algorithms</li> </ul> <p>The SDSRV CI must have the ability to store references to calibration data, instrument engineering data, production history data, and QA statistics as metadata for science data.</p> <p>This test procedure does not cover sub-letters (b thru e, and g). Sub-letters (b thru e, and g) are covered in sequence #9.1.1 in the ECS System Acceptance Test Procedures - Volume 3 LaRC Procedures document (411/VE1).</p>
IMS-0340#A	<p>This requirement is verified through inspection.</p> <p>The metadata maintained by the IMS shall contained content-based summary information, including statistical summaries and granule features, for all ECS standard and special products.</p> <p>The SDSRV CI must support inventory searches based on a combination of the Core Inventory Metadata and Product Specific Metadata.</p>
TRMM3080#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide a schedule of TRMM delivery to the ECS systems at the MSFC DAAC.</p> <p>The GSFC ECS DAAC must receive an electronic schedule of TRMM data delivery. The DAAC Ingest/Distribution Technician verifies that a data availability schedule is sent prior to the ingest of the TSDIS data products.</p> <p><b>NOTE: MSFC DAAC requirement to be handled at the GSFC DAAC.</b></p>
TRMM3090#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide status information to the ECS systems at the MSFC DAAC about delayed products.</p> <p>The GSFC ECS DAAC must receive electronic status information from TSDIS concerning delayed data products. The DAAC Ingest/Distribution Technician verifies that status is sent from TSDIS indicating the delayed arrival of data products.</p> <p><b>NOTE: MSFC DAAC requirement to be handled at the GSFC DAAC.</b></p>
TRMM3130#A	<p>This requirement is verified through test.</p> <p>All data transferred between TSDIS and the ECS systems at the MSFC DAAC, including GV, shall follow ESDIS-defined standards with specific product formats to be jointly agreed to and documented in ICDs.</p> <p>The DAAC Ingest/Distribution Technician downloads the data files that are transferred from TSDIS and verifies that the desired standards have been followed. For example, the DAAC Ingest/Distribution Technician verifies</p>

	that the Detached SFDU header consists of three Label Value Objects (LVOs): an SFDU Exchange Data Unit (EDU) Label, a Contents Identifier Object (CIO), and a Reference Identifier Object (RIO). <b>NOTE: MSFC DAAC requirement to be handled at the GSFC DAAC.</b>			
TRMM4070#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide a schedule of TRMM product delivery to the ECS systems at the GSFC DAAC.</p> <p>The GSFC ECS DAAC must receive an electronic schedule of TRMM data delivery. The DAAC Ingest/Distribution Technician verifies that a data availability schedule is sent prior to the ingest of the TSDIS data products.</p>			
TRMM4080#A	<p>This requirement is verified through demonstration.</p> <p>TSDIS shall electronically provide status information to the ECS systems at the GSFC DAAC about delayed products.</p> <p>The GSFC ECS DAAC must receive electronic status information from TSDIS concerning delayed data products. The DAAC Ingest/Distribution Technician verifies that status is sent from TSDIS indicating the delayed arrival of data products.</p>			
TRMM4130#A	<p>This requirement is verified through test.</p> <p>All data transferred between TSDIS and ECS systems at the GSFC DAAC shall follow ESDIS-defined standards, with specific product formats to be jointly agreed to and documented in ICDs.</p> <p>The DAAC Ingest/Distribution Technician downloads the data files that are transferred from TSDIS and verifies that the desired standards have been followed. For example, the DAAC Ingest/Distribution Technician verifies that the Detached SFDU header consists of three Label Value Objects (LVOs): an SFDU Exchange Data Unit (EDU) Label, a Contents Identifier Object (CIO), and a Reference Identifier Object (RIO).</p>			
TRMM 5020#A	<p>This requirement is verified through demonstration.</p> <p>Availability of TRMM data products (PR, VIRS, TMI, and GV) shall be based on the TSDIS product schedule, and an electronic status mechanism shall be available for late products.</p> <p>The TSDIS must submit a product schedule based on the availability of TRMM data products. The DAAC Ingest/Distribution Technician verifies that a TSDIS product schedule is received indicating the availability of the TRMM data products. Verification is also made that status messages are sent indicating the delayed arrival of anticipated data products.</p>			
Test Inputs:				
Data Set Name	Data Set ID	File Name	Description	Version
VIRS1A_Rep_001	TBD	TBD	VIRS 1A Reprocessed Data	TBD
VIRS1B_Rep_001	TBD	TBD	VIRS 1B Reprocessed Data	TBD

<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	Tester: Queries the data server for existence of any of the files that are to be ingested during this procedure.	
20	Expected Result: Files should not exist.	
30	DAAC Resource Planner: Invokes the Resource Planning Tool.	
40	Expected Result: The Resource Planning Tool is invoked.	
50	DAAC Resource Planner: Views the Resource Planning Tool GUI screen and options on their terminal.	
60	Expected Result: The Resource Planning Tool GUI displays the following options: - Edit - Review - Report - Plan - Configure	
70	DAAC Resource Planner: Selects the “Review” option from the Resource Planning Tool GUI screen.	
80	Expected Result: The current scheduled activities are displayed on the DAAC Resource Planner’s screen.	
90	DAAC Resource Planner: Reviews the current scheduled activities and verifies that resources have been allocated for the ingest of the TRMM data from TSDIS.	
100	Expected Result: Resource Planning Tool GUI displays the current scheduled activities on the screen and indicates that resources have been allocated for the ingest of data from TSDIS.	
110	DAAC Resource Planner: Exits the Resource Planning Tool GUI and notifies the DAAC Ingest/Distribution Technician that resources are available and ready for the ingest of the TSDIS TRMM data.	
120	Expected Result: Resource Planning Tool GUI is exited and the DAAC Ingest/Distribution Technician is notified on the availability of the resources necessary for ingesting data.	
121	Tester: Sets up TSDIS simulator for transfer of VIRS data.	
122	Expected Result: TSDIS simulator is ready for transfer of the VIRS data.	
130	DAAC Ingest/Distribution Technician: Enters a subscription requesting notification upon receipt of specific TRMM VIRS data.	
140	Expected Result: The system stores the subscription concerning the VIRS data pending receipt of the data.	
150	DAAC Ingest/Distribution Technician: Accesses the Main Ingest GUI screen and selects the “Monitor” option on the screen.	
160	Expected Result: The Ingest Status Monitor Tool is invoked and the screen identifies ongoing ingest requests (stored in Sybase tables) and displays them for the DAAC Ingest/Distribution Technician.	

170	Tester: Set up TSDIS simulator for transfer of specified data files equivalent to the required amount of data to be ingested.	
180	Expected Result: TSDIS simulator is ready for transfer of the VIRS data.	
190	TSDIS Simulator: Sends a Data Availability Schedule to the GSFC ECS DAAC.	
200	Expected Result: GSFC ECS DAAC receives a Data Availability Schedule from the TSDIS Simulator.	
210	DAAC Ingest/Distribution Technician: Receives notification that an e-mail message has been sent to their mailbox.	
220	Expected Result: DAAC Ingest/Distribution Technician reads the e-mail message concerning the schedule for the TSDIS data products. <b>NOTE: This schedule will also include information concerning delayed products and their status, if appropriate.</b>	
230	TSDIS Simulator: Sends a DAN to the GSFC ECS DAAC.	
240	Expected Result: GSFC ECS DAAC receives DAN.	
250	DAAC Ingest/Distribution Technician: Periodically reviews the Ingest Status Monitor display. Looks for ingest requests that have been queued for an unexpected period.	
260	Expected Result: The system automatically extracts metadata from transferred TRMM data, checks the metadata, (e.g. range checks). Selected parameters from the extracted metadata are checked to verify: <ul style="list-style-type: none"> <li>a. Metadata parameters stored in a dataset specific format</li> <li>b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range</li> <li>c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specific set</li> <li>d. That the metadata parameter syntax is correct</li> <li>e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)</li> <li>f. That date/time values include a valid month, day of month, hour, minute, and second</li> <li>g. That date/time values include a year within a range specific for that date/time value.</li> </ul> Format conversion to HDF-EOS is automatically performed for all ancillary products identified as requiring conversion. The data and metadata are inserted into the appropriate Data Server. Request state (active, file transferred, data insertion complete, etc.) is updated in the checkpointed request information.	
270	DAAC Ingest/Distribution Technician: Periodically reviews the MSS Event Log to visually determine anomalous conditions (e.g., a pattern of metadata check errors).	
280	Expected Result: The system automatically logs events by means of the MSS Event Logging capability. Entries recorded in this log include detection of out-of-range metadata values, incompletely-transferred data files, etc.	
281	DAAC Ingest/Distribution Technician: Accesses the "Ingest Status Monitoring GUI Screen" to view the status of ongoing ingest processing. The following information is displayed on the screen: external data provider, ingest request identifier, total ingest data volume, and request state.	

282	Expected Result: The “Ingest Status Monitoring GUI Screen” displays the necessary information concerning the status of ongoing ingest processing.	
290	DAAC Ingest/Distribution Technician: Observes the removal of the completed ingest request from the Status Monitor display.	
300	Expected Result: The systems sends status to TSDIS by means of electronic mail.	
310	TSDIS: Sends a DDA to the GSFC DAAC indicating receipt of the DDN.	
320	Expected Result: The GSFC DAAC receives a DDA from TSDIS. Upon receipt of the DDA, the system deletes the ongoing ingest request information. Summary information is retained in the Sybase data base (as Ingest History Log data).	
330	DAAC Ingest/Distribution Technician: Views summary information concerning the completed ingest requests via the GUI Ingest History Log tool.	
340	Expected Result: The system displays the Ingest History Log which contains summary information on the following: ingest start/stop dates and times; ingest request identifier; external data provider; final service request status; data type identifiers; ingest data volume; number of data sets; and number of data files.	
350	DAAC Ingest/Distribution Technician: Downloads the transferred VIRS 1A and 1B data files and verifies that approved standards have been followed. <b>See Data Reduction and Analysis section for further clarification.</b>	
360	Expected Result: The VIRS 1A and 1B data files are downloaded and reviewed by the DAAC Ingest/Distribution Technician.	
370	DAAC Ingest/Distribution Technician: Accesses the Ingest Summary Report GUI Screen and selects both the “Ingest Data Summary Report” and “Ingest Error Report” options. Generates and reviews both copies of the summary reports.	
380	Expected Result: The system generates the summary reports detailing the completed ingest requests, including completion status, data volume ingested, etc.	
390	DAAC Ingest/Distribution Technician: Invokes the DSS System Management Tool and accesses the Storage Management screen. Examines the progress of a particular insert request on the screen by selecting the “Log and Reports (MSS)” option from the screen.	
400	Expected Result: The DSS System Management Tool is accessed and the Storage Management screen is displayed. The “Log and Reports (MSS)” option is selected and the log files are displayed on the screen.	
410	DAAC Ingest/Distribution Technician: Receives a data insert request validation message on the screen.	
420	Expected Result: The Processing subsystem sends a Data Insert Request to the Science Data Server. Receipt of the request is logged and a request identifier is associated with the Data Insert Request.	
430	DAAC Ingest/Distribution Technician: Continues to receive and review status concerning the data insert requests. Accesses the Data Server System Management screen and selects the “Requests” option.	



440	Expected Result: The queued Data Insert Request is reached and processing begins. Associated data granules and metadata are transferred from the Processing Subsystem to the Data Server working storage. Data transfer status (including recoverable errors) are indicated in the event log (via MSS Logging Services). The metadata update file(s) produced by the associated data product PGEs are validated for completeness and correctness. Validation success or failure is logged (via MSS Logging Services) with the associated Data Insert Request Identifier and the appropriate status message is returned to the Processing Subsystem.	
450	DAAC Ingest/Distribution Technician: Accesses the Archive Activity screen and selects the "Archive Activity Log" option to view information concerning the archive activities of the data insert request.	
460	Expected Result: The Archive Activity Log displays each data product being stored and storage status of each storage operation.	
461	DAAC Ingest/Distribution Technician: Accesses the Archive Activity Log screen, selects the sort option of "Time & Date". Views the following information on the screen: Time and Date, Request ID, Client ID, Operation, Filename, Archive Name, and Volume Name.	
462	Expected Result: The Archive Activity Log screen displays information pertaining to the data granules contained within the Data Storage Request.	
470	DAAC Ingest/Distribution Technician: Accesses the Inventory Update Log screen and selects the "Time & Date", "Requester", "Request ID", "Volume" and "UR" options to generate a report concerning the contents of the inventory.	
480	Expected Result: The Inventory Update Log screen is accessed and displays the following fields "Time & Date", "Request ID", "Requester Name", "Volume Name", "UR", and "Checksum". A checksum value is calculated for each data object associated with each granule. The checksum value, storage status, and other selected metadata is forwarded to the Science Data Server in a status message upon completion of the Data Storage Request.	
490	DAAC Ingest/Distribution Technician: Continues to examine the progress of the data insert request by selecting the "Log and Reports (MSS)" option from the Storage Management screen.	
500	Expected Result: Science Data Server receives and logs the Data Storage Request status message from Storage Management. The additional metadata items are validated. The PGE produced metadata update file and the storage management provided metadata are loaded into the metadata database. The status of the metadata load is entered in the event log (via MSS Logging Services).	
510	DAAC Ingest/Distribution Technician, DAAC Archive Manager, and TSDIS: Receive notice concerning the status of the data insert request(s).	
520	Expected Result: The Science Data Server logs completion of the Data Insert Request in the event log and reports completion of the Data Insert Request to the DAAC Archive Manager, DAAC Ingest/Distribution Technician, and TSDIS.	
530	DAAC Ingest/Distribution Technician: Reviews the progress on subscription processing by accessing the Science Data Server Main Window Screen and selecting the "Subscriptions" option to view subscription submitted for the data.	
540	Expected Result: The Science Data Server examines the event list for all subscriptions for that event. Subscription notifications are sent to the appropriate entities.	

550	DAAC Ingest/Distribution Technician: Queries the GSFC ECS DAAC inventory for the newly inserted data products.	
560	Expected Result: The Science Data Server sends an Advertisement Update Message to the Advertisement Server to advertise the new data.	
561	DAAC Ingest/Distribution Technician: Accesses the Search and Order Tool to do a query for the TSDIS VIRS data.	
562	Expected Result: The VIRS data is located in the inventory as a single entity of logically grouped sets of data.	
570	DAAC Ingest/Distribution Technician: Logs off of the system.	
580	Expected Result: Log off procedures are completed.	

**Data Reduction and Analysis Steps:**

1. Review Ingest History Log for the following information:
  - Request ID
  - Priority
  - Data Provider
  - Start Time
  - Completion Status
  - Restart Flag
  - Pre-Processing Time
  - Transfer Time
  - Archive Time
  - Number of Files
  - Number of Granules
  - Number of Successful Granules
  - Data Volume
  - Ingest Type
2. Review the MSS Event Log
3. Review of VIRS 1A and 1B data files for the following detached SFDU header information:
  - SFDU Exchange Data Unit (EDU) Label
  - Contents Identifier Object (CIO)
  - Reference Identifier Object (RIO)
4. Review “Ingest Data Summary Report”
5. Review “Ingest Error Summary Report” for the following entries:
  - Error Type
  - Error Count
6. Review Validation Reports for the following information extracted from the metadata:
  - a. Metadata parameters stored in a dataset specific format
  - b. For numeric metadata parameters limited by a range of values, that parameter values lie within the specified range
  - c. For metadata parameters with values limited to a set of discrete values, that parameter values are listed in the specified set
  - d. That the metadata parameter syntax is correct
  - e. For metadata containing parameters describing the data size, that the data size is correct (within a specified tolerance)
  - f. That date/time values include a valid month, day of month, hour, minute, and second
  - g. That date/time values include a year within a range of specific for that date/time value

**Data Reduction and Analysis Steps:**

7. Review the “Inventory Update Log” for the following entries:

- Time and Date
- Request ID
- Requester Name
- Volume Name
- UR
- Checksum

8. Review the “Archive Activity Log” for the following entries:

- Time and Date
- Request ID
- Client ID
- Operation Filename
- Archive Name
- Volume Name

**Signature:**

**Date:**

## **9.5 Mission Related Data Processing Scenario**

The Mission Related Data Processing Scenario details the capability to coordinate processing plans and schedules information between the GSFC DAAC and the SMC. This scenario verifies the capability of the GSFC DAAC to update SMC data processing plans and schedules. The capability to receive reconfiguration directives from the SMC to update schedule priorities, resolve schedule conflicts, and operational assignments is verified in this scenario.

### **9.5.3 Maintain Processing Plans and Schedules Sequence**

The Maintain Processing Plans and Schedules Sequence verifies the ability of the GSFC ECS DAAC operational staff to receive updated schedules and reconfiguration directives from the SMC for mission related planning and processing. This sequence of tests verifies the capability to update the data processing plans and schedules manually or automatically from the SMC. The update are performed through the use of various software tools. The capability to modify the frequency (i.e., daily, weekly, or monthly) that a product is generated is verified in this sequence. This sequence of tests verifies the capability to modify subscriptions, data dependencies tables, product dependencies tables, and product generation deadlines and standing orders. The capability to receive reconfiguration directives from the SMC to update schedule priorities, resolve schedule conflicts, and operational assignments is verified in this sequence.

**Configuration:** The subsystems needed to perform this sequence of tests are as follows: CSS/MSS, DPS, DSS, INS, ISS & PLS. Refer to Appendix D for additional detail.

**External Interfaces:** The external interfaces (i.e., other ECS sites and data sources) needed for a sequence (both real and simulated) are listed:

SMC

**Operator Position(s):** The operator positions from the ECS Maintenance and Operations Descriptions document (607/OP2) needed to support this sequence are listed:

DAAC Production Planner

DAAC Resource Planner

DAAC Computer Operator

**Operational Scenario(s):** The operations scenarios, taken from the Operations Scenarios for the ECS Project: Release-A document (605/OP1), that were used to develop tests in this sequence of tests are listed:

Resource Planning Scenario (section 3.7.1)

Routine Production Planning Scenario (section 3.12.1)

**Test Dependencies:** A table identifies the test procedure(s) in a sequence of tests that should be run prior to or concurrently with a sequence or test procedure.

Test Procedure No.	Site/Procedure No.	Comments
A090530.020\$G	A090130.020\$G	Run prior
A090530.020\$G	A090140.010\$G	Run prior
A090530.020\$G	A090210.020\$G	Run prior
A090530.020\$G	A090210.030\$G	Run prior
A090530.020\$G	A090210.040\$G	Run prior
A090530.020\$G	A090240.010\$G	Run prior
A090530.020\$G	A090240.020\$G	Run prior
A090530.020\$G	A090240.030\$G	Run prior
A090530.020\$G	A090270.010\$G	Run prior
A090530.020\$G	A090430.010\$G	Run prior

### 9.5.3.2 Maintain SMC Processing Plans and Schedules-

<b>TEST Procedure No.:</b> A090530.020\$G	<b>Date Executed:</b>	<b>Test Conductor:</b>
<b>Title:</b> Maintain SMC Processing Plans and Schedules		
<b>Objective:</b> This procedure tests the capabilities of the GSFC DAAC to provide adequate procedures for the maintenance and update of SMC processing plans and schedules. The maintenance and update process for these plans and schedules is either automatic or manual.		
<b>Requirements</b>	<b>Acceptance Criteria</b>	
DADS0100#A	<p>This requirement is verified through test.</p> <p>Each DADS shall receive management directives from the SMC.</p> <p>The SMC must send management directives to the GSFC DAAC. The DAAC Computer Operator verifies that the GSFC DAAC receives the management directives, for example via e-mail message. The file is downloaded and reviewed for information necessary in performing daily management activities at the GSFC DAAC.</p>	
DADS2000#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall receive from the SMC scheduling directives in response to emergency situations.</p> <p>The SMC must send scheduling directives in response to emergency situations to the GSFC DAAC. The DAAC Computer Operator verifies that the SMC sends the scheduling directives, for example via e-mail message. The file is downloaded and reviewed for information necessary for responding to emergency situations concerning scheduling directives.</p>	
DADS2090#A	<p>This requirement is verified through demonstration.</p> <p>Each DADS shall reevaluate its schedule after receiving new orders from the IMS.</p> <p>The SDSRV CI must initiate the processing of Service Requests of equal priority in the order in which they are received. The DAAC Production Planner and Resource Manager review the most recent production plan (i.e., daily) and determine whether the new data requests will have an impact on the normal, daily production activities that occur at the GSFC DAAC.</p>	
PGS-0165#A	<p>This requirement is verified through test.</p> <p>The PGS shall accept priority processing requests from the IMS.</p> <p>The PLANG CI must accept priority Production Requests for the generation of specific Data Products. The DAAC Production Planner</p>	

	<p>reviews the production plan to verify that priority processing requests, if any, are able to be handled at the requested time(s) and/or date(s). In the event the requests cannot be handled, the production plan is adjusted to handle these priority processing requests.</p>
PGS-0170#A	<p>This requirement is verified through test.</p> <p>The PGS shall receive priority assignments, schedule conflict resolutions, and other operational directives.</p> <p>The DAAC Production Planner reviews the production plan to verify that priority assignments are incorporated into the daily production schedule. In the event of schedule conflicts, the DAAC Production Planner and DAAC Resource Planner arrange to allocate the necessary resources and time to generate the priority data requested data products. The DAAC Computer Operator verifies that operational directives are downloaded and reviewed to determine if they will have any impact on the current activities performed at the GSFC DAAC.</p>
PGS-0260#A	<p>This requirement is verified through test.</p> <p>The PGS shall schedule other functions, including, at a minimum:</p> <ul style="list-style-type: none"> <li>a. File backups</li> <li>b. File maintenance</li> <li>c. Calibration data handling</li> </ul> <p>The DAAC Computer Operator schedules time and resources for file backups and maintenance according to time intervals that have been determined by the DAAC and/or the SMC.</p> <p>This test procedure does not cover sub-letter (c) - Calibration data handling.</p>
PGS-0290#A	<p>This requirement is verified through test.</p> <p>The PGS shall make electronic copies of its plans and schedules available to the IMS, the SMC, and the collocated DADS.</p> <p>The GSFC DAAC must generate plans and schedules for general distribution and review. The DAAC Computer Operator reviews the electronic versions of the production plans and schedules and verifies that the reports are distributed to the SMC.</p>
PGS-0300#A	<p>This requirement is verified through test.</p> <p>The PGS shall have the capability for an operator to interactively review and update the current data processing schedule.</p> <p>The DAAC Computer Operator must be able to interactively review and update the current data processing schedule. The DAAC Computer Operator invokes the Planning System Menu and views the desired data</p>

	processing schedule. Any proposed changes are reported to the DAAC Production Planner who will coordinate any changes with the DAAC Resource Planner.			
PGS-0325#A	<p>This requirement is verified through test.</p> <p>The PGS shall provide the SMC with scheduling and status information.</p> <p>The SMC must be provided with scheduling and status information concerning the GSFC DAAC. The DAAC Computer Operator verifies that the reports are generated and sent via e-mail to the SMC for review.</p>			
Test Inputs:				
Data Set Name	Data Set ID	File Name	Description	Version
PLANNING_001	TBD	TBD	Planning Information	TBD
SCHEDULE_001	TBD	TBD	Schedule Information	TBD
DIRECTIVE_001	TBD	TBD	Directive Information	TBD



<b>Step-By-Step Procedures</b>		
<b>Step No.</b>	<b>Input Action / Expected Results</b>	<b>Pass / Fail / Comments</b>
10	DAAC Resource Planner: Invokes the Resource Planning Tool.	
20	Expected Result: The Resource Planning Tool is invoked.	
30	DAAC Resource Planner: Views the Resource Planning Tool GUI screen and options on their terminal.	
40	Expected Result: The Resource Planning Tool GUI displays the following options: <ul style="list-style-type: none"> <li>- Edit Activity (Enter/Modify/Authorize)</li> <li>- Review Activities</li> <li>- Configure Resources</li> <li>- Create Resource Plan</li> </ul>	
50	DAAC Resource Planner: Selects the “Review Activities” option from the Resource Planning Tool GUI screen.	
60	Expected Result: The current scheduled activities are displayed on the DAAC Resource Planner’s screen.	
70	DAAC Resource Planner: Collects and reviews all resource requests that have been sent for inclusion in the GSFC DAAC resource plan. Verifies that there are no conflicts concerning the allocating of resources.	
80	Expected Result: The DAAC Resource Planner reviews all of the resource requests that have been received.	
90	DAAC Resource Planner: Selects “Create Resource Plan” from the Resource Planning Tool GUI screen.	
100	Expected Result: The “Create Resource Plan” screen is displayed and ready for the DAAC Resource Planner to enter the required information for the resource plan.	
110	DAAC Resource Planner: Enters the following information on the “Create Resource Plan” screen: <ul style="list-style-type: none"> <li>- ground event</li> <li>- description</li> <li>- start time</li> <li>- duration</li> </ul>	
120	Expected Result: A Resource Plan is generated based upon the information entered into the Resource Planning data base by the DAAC Resource Planner.	
130	DAAC Resource Planner: Selects the “Authorize” option to authorize the desired resource plan and notices a color change where an overlap of ground events has occurred.	
140	Expected Result: The “Authorize” option is invoked and the DAAC Resource Planner’s screen displays a color change indicating a conflict with scheduled ground events and the allocation of resources.	

150	DAAC Resource Planner: Reviews a timeline view of the conflicting ground events and resources. Notifies the originator of the resource request of the pending conflict and asks for a possible resolution to the problem.	
160	Expected Result: The DAAC Computer Operator is notified of the pending conflict and attempts to resolve the problem.	
170	DAAC Computer Operator: Invokes the Resource Planning Tool GUI and displays the resource plan containing the conflict.	
180	Expected Result: The Resource Planning Tool GUI is invoked and the DAAC Operator views the resource plan with the pending conflict.	
190	DAAC Computer Operator: Notifies the DAAC Resource Planner that their original desired resource schedule can be altered to accommodate the pending conflict.	
200	Expected Result: The DAAC Resource Planner receives the updated resource schedule from the DAAC Computer Operator.	
210	DAAC Resource Planner: Invokes the Resource Planning Tool GUI.	
220	Expected Result: The Resource Planning Tool GUI is invoked.	
230	DAAC Resource Planner: Selects the “Modify” option and enters the new resource plan information supplied by the DAAC Computer Operator.	
240	Expected Result: The DAAC Resource Planner uses the “Modify” option to enter the new, revised resource plan information.	
250	DAAC Resource Planner: Selects the “Authorize” option to authorize the desired ground events on the resource plan.	
260	Expected Result: The Resource Plan is authorized and accepted by the system.	
270	DAAC Computer Operator: Receives e-mail notification confirming the requested ground event addition and the modification of the ground event due to a schedule conflict.	
280	Expected Result: System sends an e-mail notification to the DAAC Computer Operator indicating the addition and modification of requested ground event resource allocation.	
290	DAAC Production Planner (Computer Operator): Invokes the Resource Planning Tool GUI to view the latest resource schedule previously generated by the DAAC Resource Planner.	
300	Expected Result: The Resource Planning Tool GUI is invoked and the DAAC Production Planner selects the “Review Activities” option to view the resource schedule.	
310	DAAC Production Planner: Reviews the latest management and scheduling directives sent from the SMC to see whether this information will have any impact on processing data requests at the GSFC DAAC. Also, reviews existing processing requests to determine whether changes need to be made to these requests.	
320	Expected Result: Reviews SMC management and scheduling directives and current processing requests.	
330	DAAC Production Planner: Invokes the Production Planning Tool GUI.	

340	Expected Result: The Production Planning Tool GUI is invoked.	
350	<p>DAAC Production Planner: Views the following options from the planning workbench:</p> <ul style="list-style-type: none"> <li>- New</li> <li>- Open</li> <li>- Save</li> <li>- Timeline</li> <li>- Production Requests (PRs)</li> <li>- Baseline</li> <li>- Update</li> <li>- Activate</li> <li>- Cancel</li> </ul> <p>Selects the “New” option from the planning workbench screen.</p>	
360	Expected Result: The previously listed options are displayed on the screen and the option “New” is selected.	
370	DAAC Production Planner: Enters desired start and stop dates and times for creating the production plan.	
380	Expected Result: The desired time periods are entered into the Planning Data Base and a scrollable list is displayed on the screen. This scrollable list contains Production Requests that are applicable to the time period entered.	
390	<p>DAAC Production Planner: Reviews the Production Requests list and verifies that the following fields are contained in the list:</p> <ul style="list-style-type: none"> <li>- Production Request Name</li> <li>- PGE ID</li> <li>- Priority</li> <li>- Time Period</li> <li>- Comments</li> <li>- Details concerning whether the PR has been scheduled for inclusion in this plan</li> </ul>	
400	Expected Result: The Planning Workbench displays PRs that are applicable to the specified planning interval.	
410	DAAC Production Planner: Selects to view the details of a PR for further clarification.	
420	Expected Result: The Planning Workbench displays a detail screen for a single PR, identifying all of the information pertaining to the job.	
430	DAAC Production Planner: Pages back to the previous display of all PRs for the specified time period.	
440	Expected Result: The Planning Workbench displays all of the PRs associated with the desired time period.	
450	DAAC Production Planner: Selects the PRs to be run during the planning interval. Selects the “Schedule” option to indicate completion of PR selection.	
460	Expected Result: The selected PRs are highlighted on the screen and the “Schedule” option is invoked.	

470	DAAC Production Planner: Clicks on “Timeline” to create a plan from the previously selected PRs and presents it as a timeline display.	
480	Expected Result: A monthly plan is developed using the selected PRs, information concerning the projected run time of the jobs, system resource projections including ground event activities, and priorities associated with jobs.	
490	DAAC Production Planner: Reviews the newly created Production Plan and notices that all of the intended processing objectives have not been included in the plan. Decides that a second candidate plan where the priority of some processing activities are lowered to allow standard processing objectives to be met.	
500	Expected Result: The Planning Workbench displays the current processing plan.	
510	DAAC Production Planner: Exits the plan viewing GUI, saves the current plan by selecting the “Save” option, and returns to the plan creation activity.	
520	Expected Result: The plan viewing GUI is exited, the current plan is saved, and the plan creation activity screen is displayed on the DAAC Production Planner’s monitor.	
530	DAAC Production Planner: Clicks on “Timeline”.	
540	Expected Result: The Timeline GUI screen is displayed.	
550	DAAC Production Planner: Reviews the second candidate plan created and is satisfied with the results that are displayed as a result of the priority changes entered. Clicks “Save” for this monthly production plan.	
560	Expected Result: Displays the second candidate plan and saves this monthly production plan.	
570	DAAC Production Planner: Exits the plan creation GUIs and accesses the Planning Workbench.	
580	Expected Result: The plan creation GUIs are exited and the Planning Workbench GUI is displayed on the DAAC Production Planner’s screen.	
590	DAAC Production Planner: Selects “Baseline” to establish a point of comparison to be used for “Planned vs. Actuals” comparisons.	
600	Expected Result: A tabular representation is created containing information captured in the production plan. This table is transferred to the Document Data Server (DDS) where it will be available for public viewing.	
610	DAAC Production Planner: Creates a weekly plan by selecting the “Open” option to open an existing plan for the week.	
620	Expected Result: The desired weekly plan is displayed.	
630	DAAC Production Planner: Reviews and updates the selected PRs where required reflecting planning meetings and comments.	
640	Expected Result: The system updates the selected PRs with information discussed during planning meetings.	
650	DAAC Production Planner: Clicks on “Timeline” to view the resulting plan for the selected time period. Agrees with the changes entered into the Planning data base and saves the plan.	

660	Expected Result: The resulting plan is displayed on the screen and saved in the Planning data base.	
670	DAAC Production Planner: Exits from the plan creation GUIs and returns to the Planning Workbench.	
680	Expected Result: The plan creation GUIs are exited and the Planning Workbench GUI is displayed on the DAAC Production Planner's screen.	
690	DAAC Production Planner: Selects the "Baseline" option to establish a point of comparison to be used for "Planned vs. Actuals" comparisons for the weekly plan.	
700	Expected Result: A tabular representation is created containing information captured in the production plan. This table is transferred to the DDS where it will be available for public viewing.	
710	DAAC Production Planner: Selects the current weekly plan being used for the activation/schedule seeding operation. Selects the "Activate" option from the list of Planning Workbench options.	
720	Expected Result: The plan for the day is updated to reflect any changes in the PDPS Planning data base such as the status of Data Processing Requests (DPRs) that were previously activated for processing, or changes in the resource allocation timeline for processing.	
730	DAAC Production Planner: Enters the time range of the scheduling period and any comments appropriate to the schedule. Select the "Activate" option from the Planning Workbench GUI.	
740	Expected Result: The system creates an ordered list of the activities which are currently active in data processing and integrates with it other activities that may be scheduled within the scheduling window or time period. The planning system processes the list: if the DPR is already active (i.e., in the data processing system), the entry available to the data processing system is updated to insure most current information with possible priority adjustments. If the DPR is not active, it is scheduled into the data processing system.	
750	DAAC Production Planner: Reviews the resulting schedule and agrees with the results. Returns to the Planning Workbench GUI.	
760	Expected Result: Generated schedule is accepted by the DAAC Production Planner and the Planning Workbench GUI is displayed on the screen.	
770	DAAC Computer Operator: Receives an e-mail concerning new management directives and scheduling directives in response to emergency situations from the SMC.	
780	Expected Result: The SMC sends the e-mail messages regarding changes in management and scheduling directives.	
790	DAAC Computer Operator: Downloads the directives, distributes copies to the appropriate DAAC personnel, and places the copies in the SMC notebook containing SMC directives for DAAC operations.	
800	Expected Result: The management and scheduling directives are downloaded, delivered to the appropriate DAAC personnel, and placed in the appropriate DAAC operations notebook.	

810	<p>DAAC Computer Operator: Reviews the weekly production plan and notices that entries for performing file backups and maintenance are contained within the schedule.</p> <p><b>NOTE: These activities are generally scheduled on a regular basis. The time frame is usually determined by the DAAC operations personnel.</b></p>	
820	Expected Result: The DAAC Computer Operator performs the scheduled file backups and maintenance procedurally through the use of UNIX tools.	
<p><b>Data Reduction and Analysis Steps:</b></p> <ol style="list-style-type: none"> <li>1. Review Resource Plan</li> <li>2. Review SMC Management and Scheduling Directives</li> </ol>		
<b>Signature:</b>		<b>Date:</b>